THE FARMERS' CABINET,

AND

AMERICAN HERD-BOOK,

DEVOTED TO

AGRICULTURE, HORTICULTURE, AND RURAL AND DOMESTIC AFFAIRS.

"The Productions of the Earth will always be in proportion to the culture bestowed upon it."

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To the Editor of the Farmers' Cabinet.

On Steeping Seed-Wheat.

Sir,—The opinions of agriculturists on this subject, are remarkably divided. While some believe that, without it, a farmer has not, and ought not to have, a chance of avoiding smut in the year to come, another numerous and respectable portion of cultivators believe nothing about it. Amongst the former of these is Jethro Tull, while the latter boasts of John Lawrance, the author of the New Farmer's Calender; and from these works I would wish to make a few extracts, for the consideration of those, who will so soon be called upon to make their choice, "for weal or for woe."

Tull informs us, there are but two remedies proposed, brining and a change of seed: that brining, to prevent smuttiness in wheat, was accidentally discovered about 180 years ago, in the following manner. A ship, loaded with wheat, was sunk near Bristol (England) in the autumn, and afterwards, at low tide, the cargo was all taken up, after it had soaked many days in salt water; but, it being unfit for making bread, a farmer sowed some, and it was found to grow well; the whole cargo was, therefore, bought by the farmers at a low price, and it was sown in different places. At the following harvest, all the wheat in England was smutty except the crops that were raised from this brined seed, and that was perfectly free from it; and this accident has been sufficient (he adds) to justify the practice of brining seed ever since, in all the adjacent parts, and in most other parts of England. And he goes on to say, I knew two farmers, whose lands lay intermixed, and who bought the same seed together, from a very good change of land, and separated every load between them in the field; one of them, believing brining to be a mere fancy, sowed his seed without; the other brined his seed, and had not a smutty ear in his crop, while the other's crop was very smutty! He adds, if seed-wheat be soaked in brine, it will not grow; or if it be only sprinkled with it, most of it will die, unless it be planted immediately. He advises, to sift quicklime on the wheat while it is wetted with strong salt-water, or brine, to dry it, which confines the brine to the surface of the grain, and suffers none of the salt to be exhaled by the air.*

But, after saying all this, he adds, smutty seed-wheat, although brined, will produce a smutty crop, unless the year prove very favourable, for it is to be known, that favourable years will *cure* the smut, as unkind ones will *cause* it, else, before brining was used, and the bad seasons had *caused* all the wheat in England to be smutty, they must have brought all their seed from foreign countries, or never more have had clean wheat; therefore it is certain that *kind* years will *cure* the smut; and it is, therefore, to prevent the injury of a *bad* year that we *brine* and plant clean seed. At the same time, he adds, "of the two remedies against smut, some think a proper change of seed the most certain; and one informs me, that since he has discovered a place that affords a proper change of seed for his land, he has never had a smutty ear in his crop, although he never limes or brines; and this gives a suspicion, that the drowned wheat, being foreign, probably would have given a clean crop the next year, although it had not been soaked in salt-water: so that the wheat sown by the two farmers before mentioned, might have been from a good change of land, but the seed, not being changed the preceding year, *might* be no more infected than what the brine and lime did cure."

Now, all this is not very clear at this time of day, it must be confessed; but to this might be added the testimony of thousands of limers and briners, who have demonstrated, through a long life, the absolute *necessity* for both brining and liming; and we are left to wonder, that the complaints of smut in an *unkind* year are still as prevalent as ever, even after the most explicit directions have been followed out, and not an *iota* of the ceremony neglected.

* He ought to have known, that no part of the salt will evaporate by exposure.

But in the midst of this uncertainty, John Lawrance comes forth, the champion of a new doctrine; and, whatever might be the result, in his peculiarly simple and lucid mode of argument, there can be no mistake or misunderstanding. He says,

"The *effects* of blight and smut, upon grain and vegetables of all kinds, are too common and well known to need description, but it is far different with the *cause*, to which, in my opinion, custom has assigned a most fanciful origin. To suppose that grain caught blight or smuttiness from the seed, is, perhaps, about as rational as to attribute an accidental cold, to a defect in the *parental* constitution of the patient; and to steep the seed-grain, with the view of preserving the future crop from smut, is a proceeding equally sage, as if a man should apply to Dr. Bradley, or to any other Doctor of equal celebrity, for a medicine to be taken at Gunpowder Treason,* in order to cure a cold, which may possibly attack him the summer next ensuing! Now, all these affections, under whatever term, originate in obstructed circulation and the corruption of the vegetable juices; and the immediate *causes* are, sudden changes of the atmosphere from opening heat to pinching cold, which instantaneously close up the vegetable pores, and obstruct the circulation of the sap! Now, should these causes of the diseases approve themselves legitimate, both in theory and experience, to what end are we troubling our heads with others, which can pretend to no certain ground whatever? How happened it with the crops before brining and liming came into fashion? It was then held, according to Tull, that a good season would *cure* the smut—the obvious interpretation of which is, that the matter depends entirely on the season.

In the year 1725, there was a general blight, which affected all the wheat alike, steeped or unsteeped; and I have known a field of wheat, the seed of which had been fashionably brined and doctored, blighted in those parts most exposed, particularly in those ears which stood up erect above the rest,† whilst the lower ears escaped; and it appeared plain, to demonstration, that the sheltered grain, or that which was fortunately out of the reach of the atmospheric stroke, owed little thanks to the doctor; while, to the exposed and blighted, there could be no longer any question about the power of prevention in the steep. And how often have experimenters found their brined seed blighted or smutted, whilst their unbrined has escaped! And how often is even a part of a plant blighted, and part left sound? I have been informed by a man, who farmed near half a century, that he could never discover any difference, but that his dressed seed was equally liable with that which he sowed in its natural state; nay, that he had never scrupled to sow *smutty wheat*, from which he had grown as pure grain as from the purest seed!

Bradley, who was a whimsical and inaccurate reasoner, after a string of windy speculations on the cause of blight, and as knowing a prescription for the cure of smut—such an one as could be furnished by any one of us of the present day—concludes with, *Note*, 'Many farmers steep their wheat in brine, and yet have plenty of smutty wheat, because they do not make their brine strong enough, and take their seed out too soon.' When Dr. Sangrado's patients died, in spite of the infallible specific, he also declared, their misfortune arose because they had not been dosed enough!

Now, that no evil accident of the winds or dews does often occur to blight or discolour a crop of wheat, is, happily, a common case; many believe that these blights are drawn to the fatal spot by barberry, or other deleterious bushes; but Mr. Marshall's grave account of the effects of the marvellous barberry-bush of Norfolk, has the following unfortunate conclusion. 'The tail (of the blighted strip) pointed towards the south-west, so that probably the effect took place during a north-east wind'—no doubt it did; but if this bush could act as a conductor to the wind, any other might perform the same office; for we know too well, that, in order to blight strips of grain, larger or smaller in length and dimensions, the north-east wind does not need either barberry or *goose*-berry bushes as conductors! But even the sagacious Tull himself, has fallen in with the popular notion, and, with his antagonist Bradley, he mistakes the *effect* for the *cause*—supposing blight to be occasioned by insects, instead of attributing the generation of insects to the corruption consequent upon blights—a thing which admits of ocular proof.

Before I dismiss this subject, however, I would wish to be clearly understood: I by no means take upon me to assert the utter incapacity of infection in the smut of wheat, or the literal impossibility of an importation of flies from Hesse or Norway, but their *improbability* only, and want of foundation in experiment or fact. I should counsel no one to trust to unsound seed, when sound may be obtained, or, in case of necessity, to make use of the former, without taking every possible method to wash and purify it; for which

* The 5th of November.

† A writer objects, "You attribute smut, blight, &c., to a defect in the crop—now this cannot be the cause, for the largest, tallest, and finest ears of my crop of the present year are most affected; the lower ears have generally escaped."

purpose I should deem a strong soap-ley equal to any thing; but as to steeping *sound wheat* for the prevention of next year's blights, it is a mere *abracadabra*, and stands upon the same foundation of rationality with blessing a thorn out of the flesh! But the ancients acted still more unreasonably; for in this case, when charms of red cloth and the feathers and heart of an owl, and all other such remedies failed, they threatened their deities with *bloody axes!* I have tried various fructifying steeps, solutions of nitre, sheep's dung, and I know not what, but without the smallest success."

The following quotations are from Ellis: Case 1st. "The sickness in wheat, happens sometimes to only one side of the ear, while the other parts of the ear remain sound, as was once the case of a whole field of wheat, at Hazelmere, in Surrey, when only the west side of the ear was smutty, the rest free throughout the field; showing the disease to be occasioned by an *infectious wind*"—the east wind, of course.

"Case 2d. A man having but one field, it was sown for him with naked wheat-seed, by a neighbouring farmer, who, wanting a little more seed to finish the field, sent for some of his own, that he had brined and limed—the latter proved smutty, but the former clean, although both were sown the same day; and, although it may be supposed that the unbrined seed may be sound seed, and the brined unsound, the result is of no consequence but to prove, that brining is of no utility in case of unsoundness.

"Case 3d. One of my neighbours, an ancient, curious farmer, not only changed his seed, but brined and limed it well, yet in the year 1740, he had a smutty crop—this seems to be owing to a *long frosty winter, cold spring and dry summer.*"

The following experiment, by Sir John Call, is extracted from the Board Communications, vol. 2, p. 428. "In the year 1797, when my men were threshing out my wheat, I desired them, as well as some of my neighbours, to save all the ears they met with, which were affected with smut; thus collecting all I could, previous to the beginning of October; I found some ears wholly decayed; some with one, two, or more grains, apparently perfect, all which I caused to be rubbed out with the hand, into a bag of paper, smut and all together; and, after mixing and rubbing the grains in the smut, all I could get perfect out of the smutty ears were 72 grains, which were carefully planted, and marked, in a ridge amongst other wheat, in a field then under tillage: their growth, from the first, was similar to the rest of the field, and the following is a certificate of its state at harvest—signed by the Rector of the parish, and two farmers of the neighbourhood.

'We, whose names are hereunto subscribed, having been requested, by Sir J. Call, to view and examine a field of wheat, then fit for reaping, and to take notice if we saw any difference in the appearance of some parts, when compared with others, do declare, that in a ridge, marked No. 2, (where 72 grains of smutty wheat, after being rubbed out in a bag and mixed up with the smut, and in that state had been planted) we only found two ears, out of about three hundred, which grew out of the stalks from the smutty seed, that had, apparently, smutty grains in them; and we found many smutty ears in other ridges of the field; so that it did not appear that the smut had been in particular in that part.

That, having examined a ridge, No. 5, sown with shrivelled wheats, the crop appeared as productive as any part of the field that was sown with the best seed-wheat.'"

Signed.

Aug. 2, 1798.

The above experiment, on the back of so many others of similar proof, is altogether decisive with me, as to smut, which, in all probability, has no more power of propagation, than has the rust of iron. But, granting the existence of the eggs of insects in the seed-grain—*which is quite a distinct subject*—a steep, or some other measure, is doubtless necessary for the purpose of destroying them, although it can have no possible efficacy in the prevention of blights from the inclemency of the weather; but even this can possibly be better effected upon a kiln, where a degree of heat might be given, sufficient to destroy animal life, without, in the smallest degree, injuring the vegetative power; for Tull tells us of an "honest yeoman, who practised kiln-drying wheat, in order that it might be protected from the weevil, who would show that every grain of it would grow, after being kept seven years." T.

A Gem.

WOMAN.—Nature has given woman an influence over man more powerful than *his* over *her:* from birth to death he takes help and healing from her hand, under all the most touching circumstances of life; her bosom soothes him in manhood, and supports him in sickness and in age. Such influence as this, beginning at the spring of life and acting in all its most trying moments, must deteriorate or improve man's character—must diminish or increase his happiness, according to the moral and intellectual gradation of woman: thus, upon her improvement in *particular*, depends human improvement in *general.*

To the Editor of the Farmers' Cabinet.

On Top-Dressing.

Sir,—I notice the first article in the last number of the Cabinet, on "wheat-sowing," and believe there is much truth in the view of the subject there taken. I too am convinced, that our fallowed and dunged oat-earshes are all too light and rich for our wheat seed-beds, and had already formed the resolution to sow no more oats, but put all the manure for the corn, and sow wheat after—and the drawing of Mr. B. Cooper's corn-stalk machine comes just in time to give me the opportunity to clear my corn-field in the way proposed, and to commence operations immediately after.

But I shall have the means of carrying out only one-half my plan this season, as the corn of the present crop will not have been manured for—so I will tell you what I propose, and I do so, to make of it a *sporting question*. The dung which I now have ready to carry abroad on the oat-earsh or fallow for wheat, I will take to my corn-field, where I now intend to sow my wheat, and, having ploughed up the lower headland to a great depth, I will deposit it in a long narrow row thereon, and after the wheat is sown and leisure serves, I will get the dung and the soil of the headland well mixed and turned up together, so to lie until the spring, at which time, and before the frost breaks up, I will carry it out and deposit it in heaps on the wheat, preparatory for spreading—carefully breaking all lumps, &c.—at the time of the first thaw.

Now what say my brother farmers to this plan? Will it not entirely relieve us from the premature autumnal growth, and the consequent spewing out of the crop in the spring, sheltering the young plant at that season, and promoting a rapid growth just at its starting, pushing it through the vicissitudes of that changeable period, and, by these means, enabling it to escape the blight and the thousand other ills that so frequently assail it? I guess it will; and if it does, I can do as so many of our friends are doing—take out a patent, to secure to myself the growing of all the wheat, after this plan, in the country, as I consider it about as original as many that are now in high repute.

Seriously, however, I believe the proposal, to retard the growth of the wheat-crop during the autumn, is worthy of our best regard, and I have no doubt it can be accomplished most effectually in the way abovementioned, as also, by that pointed out by Edmund Cross, in the article alluded to, in the Cabinet; I believe also, that our crops suffer by being lifted by the frost, in the way pointed out by him, and the dung, which we bury at the time of sowing the wheat, augments a hundred fold the evil, by keeping the land light, which then holds the water like a sponge during the winter, and rises in proportion with the frost, taking with it the young wheat-plants; and, at its breaking up in the spring, the dung being then decomposed and offering no longer any resistance, the earth and that subside together, leaving the wheat lifted on the surface, exposed to all sorts of disorders.

Now it would appear, on reflection, that to dung the *seed-bed* for wheat must be a very wasteful process, to say the least; its fructifying powers are not required during the autumn and winter, if the land upon which the crop be sown is clean and in tolerable heart—such, for instance, as after the corn-crop—and before the time of its vegetation in the spring, a large portion of its finest particles must have been carried off, by about six months' exposure to the storms and rains of winter; thus, much of it must have been washed away and totally lost, while the *good* that it has done in promoting premature vegetation, is the greatest part of the *evil*. Now, according to the plan proposed, the rains of winter are washing the richness of the dung into the upturned earth of the headland, which was before the best part of the field, causing it to become equal in value to the manure itself, pulverizing and ameliorating the whole mass, and rendering it peculiarly suitable for the purpose of a top-dressing, easily washed to the roots of the young plants by the genial showers of the spring, and affording nourishment just at the time when it is most required. And it is not necessary to point out the peculiar advantages which the grass seeds would derive from so clean a soil, spread over with so rich a compost for their reception; the danger would be that they would grow too luxuriantly for the welfare of the wheat-crop, but that could in a measure be guarded against, by delaying the sowing of them for a season.

I am aware, that to those who have never practised top-dressing of wheat in the spring, the thing will appear strange, and an innovation upon old and settled prejudices, but "trial makes mention," and one which I have made speaks loudly in its favour, for the crop was taller by a third, and much better in quality and larger in quantity: but one thing must be guarded against, it will be easy to cause it to rust, by giving it too much food, according to the theory laid down in the first article of the Cabinet for June, and to which I refer your readers; for, it must be remarked, the wheat, under this management, derives all the nutriment of the dressing—none being dissipated by the rains of a long winter—and immediately at the time when it is in a condition to receive the benefit, and the

effect will be found to be almost instantaneous. Quere—would not this be the proper way, namely, by top-dressing—of expending that very strong and effective article lately brought into use, by an incorporated company too—Poudrette? I think it would, and venture to propose a trial.

To many, the system of top-dressing will be novel, and contrary to all their preconceived opinions, and yet the practice boasts of the weight of many great names in its support, amongst the rest, of Joseph Hayward, who, in his "Science of Agriculture" —a rare and most valuable work—thus expresses himself on the subject.

"I shall hereafter state my reasons why it is *improper*, as a general practice, to manure lands that are intended for immediate seed-crops; but there may be cases where the state of the soil, from poverty and other circumstances, requires it; and, in these cases, I am convinced that the best time and manner of supplying dung for such crops is, by spreading it over the surface, after the seeds are sown. At first sight, and according to Sir H. Davy's notions, this may appear to be a wasteful practice, but it is far otherwise; for, as he says, 'organic substances, as soon as they are deprived of vitality, begin to pass through a series of changes, which ends in their complete destruction, in the entire separation and dissipation of the parts: animal matters being the soonest destroyed by the operation of *air*, *heat*, and LIGHT; vegetable substances yield more slowly, but finally obey the same laws; the periods of the application of manures, from decomposing animal and vegetable substances, depend upon the knowledge of these principles.' Now, notwithstanding the manner of applying the dung which I recommend—that of spreading it over the surface, and there permitting it to remain, before it be ploughed in, twelve months or more—is directly opposite to that recommended by Sir H. Davy, it will be found more completely accordant with the principles of Mr. Kirwan; for, by leaving dung openly spread on the surface, it is evident that the influence of the *air*, the *heat* of the sun, and *light*, will be the least controlled or obstructed, and consequently, the decomposition will be more rapid, regular, and conformable to the wants of the plants. Under such circumstances more carbonic acid may be generated, but as this elastic fluid is heavier than the atmospheric air, it will fall on and penetrate the open surface of the soil, and thus accord in effect with the experiments, cited by Mr. Kirwan, of Dr. Priestley and M. Ruckett. And as to any loss arising by the evolution of any other gases, they are less likely to occur from dung in this situation than when buried, for carburetted hydrogen gas is formed in the greatest quantity during the putrefactive process of fermentation, and when the substances are immersed in or glutted with water, and excluded from the air and light; and in this state they most generally are when buried; and this gas, possessing an opposite quality to the carbonic acid gas, in being much lighter than the atmospheric air, will, as it is formed, operate in a reverse manner to the carbonic acid, for it will, immediately on being liberated, penetrate the surface of the soil, mount rapidly into the atmosphere, and pass off with the wind, and be thus lost. And, further, it is well known that animal and vegetable substances, decomposed by the cold putrefactive fermentation under the earth, or at the bottom of stagnant ponds, are inert and inefficient, at least until they are made to undergo some other chemical change, by calcination, oxidation, &c., and this is evinced by peats, bogs, &c., and we may likewise instance the effect of the accumulated animal substances, decomposed under the earth in burial-grounds, which never exhibit any comparatively extraordinary luxuriance of vegetation. And, as a practical demonstration that dung, when laid on or near the surface, and repeatedly turned over and exposed to the action of the atmosphere, is not *very rapidly* or very *effectually* exhausted, I shall state a course of operations which were carried on, in a field of about six acres, within my immediate observation.

The soil of this field was a fine friable loam, and of a black colour, but the surrounding land, although of the same texture, was of a foxy brown; this difference in the colour, no doubt, was occasioned by the difference in cultivation and manuring: the surrounding lands had been treated in a careless, slovenly manner, as a common farm, whilst the field in question was cultivated as a market garden, and manured at least once in the year, for many years. At the period it came under my notice, the market gardener had died, and it fell into the hands of another person, who, having but seven years of a lease to run, determined, as he said, to work it out; he therefore sowed it with white wheat for five years following, without giving any manure. The first year it produced 48 bushels per acre, and every year after the crop declined but three or four bushels per acre; the sixth year it was planted with potatoes, without manure, and the crop averaged fourteen tons per acre; the seventh year it was sown with wheat, without manure, and it produced upwards of thirty-two bushels per acre.

And, to show the beneficial effects of *top-dressing*, I shall also state, that about that time I took possession of a pasture-field of about twenty acres, a strong yellow, or foxy

land; it lay on the side of a hill, and was very wet and poachy, particularly during winter; had been generally cut for hay, although it seldom produced more than three-fourths of a ton per acre, and this, not until the end of July; I drained it, by cutting a ditch at the upper side, deep enough to get below the stratum of clay, turning the water down the sides, and gave it a top-dressing of scavenger's manure, the cleaning of the town streets, and, the year after, it produced me a load and a half per acre, in the middle of June, and a second crop of three-fourths of a load the beginning of September, and this it has continued to do, varying a little, more or less, according only as the seasons were wet or dry.

And to show the effect of dung buried deep, the following instance may be sufficiently strong. I had noticed, in a field at Wickham, in Kent, which was laid down for a cherry-orchard, and planted with fine young healthy standard trees, that for two years made a beautiful and luxuriant growth, and the third year, in the spring, they threw out their shoots with equal luxuriance; but, before summer, I observed, to my astonishment, they were all withered and dead. Not being able to assign a cause for such an unusual failure, I called on the proprietor to enquire how it happened; he seemed perfectly resigned to what he called his ill luck, in having them struck with a blight; but, perceiving no reason why his trees should be blighted, whilst his neighbours all around should escape uninjured, I enquired farther *as to the nature of the sub-soil*, when he told me he had been at great expense and trouble to prepare the soil, by giving it a thick covering of rich stable dung, and trenching it in, a spit and a half deep, with the spade; I observed the trees had thrown out a profuse discharge of gum, and have no doubt, that, during the first two years, the roots had not penetrated the dung, but on reaching it, the third year, they were poisoned,* by being so glutted with impure food as to be thus diseased and destroyed.

And, whatever devastation may be committed by the insect or fungus tribe to trees or plants, I am convinced, that by far the greatest extent of injury, from what is placed to the account of canker, mildews, &c., if correctly investigated, will prove to originate *in the unwholesome supply, or impurity of the food.* And as to the objection, that by leaving dung on the surface, a too rapid decomposition of the manure will be followed by a too rapid consumption of food, it may be said, "a man cannot eat his cake and have it too;" let the crop be suited to the manure, or the manure to the crop, and as long as he gets its full value, he will have little reason to complain of its coming into his pocket too quickly; the sooner he gets a profitable return for one dressing of dung, the sooner he can afford another; and, if a proper course of crops be taken, he may go on a long time without feeling cause to complain that his lands are too prolific, or too rich.

To be consistent, we must abide by chemical principles, or give them up: the difference in the effect of the method I recommend, of applying manure on the surface and there to suffer it to remain the longest period convenient, and that, by Sir H. Davy, of burying it immediately, may be determined by the comparative formation and effect of the two gases—*carbonic acid* and *carburetted hydrogen*—if the former be, as stated, a principal ingredient in the food of plants, and that, by its gravity, it will descend and penetrate into the soil, no method more favourable for its generation and equal distribution can be found or devised, than by my mode of application: and, if carburetted hydrogen be either an unwholesome food, or, by its rapid escape,† the occasion of a great waste of carbon, and nitrogen gas be poison or obnoxious when in contact with the food, no mode can be more favourable to, or productive of both those effects, than burying the dung in an unfermented state.

If we were to suppose that a difference in the quality of the food supplied to plants produced no difference in its effects, or that the roots possessed the power of selecting the exact quantity and proportion of each principle required for its particular purpose, from any composition that may be presented to it, we should be driven far off from accounting for the diseases of plants, or for the difference in size, substance, state, and condition of plants of the same species when growing in the same situations; and although we are justified in believing that a plant, having taken in its food in a compound state, possesses the power of dividing and appropriating

* See page 364, vol. 4, of the Cabinet—Dialogue, Cultivation.

† Then, would it not appear that the gas which is constantly flying off from our dung-hills during their state of fermentation, and which is always evolved in proportion to the *air*, the *heat*, and the *light* to which they are exposed, is *carburetted hydrogen*, a substance unfit for the food of plants, and is, *therefore*, driven away into the atmosphere, to form other combinations, by which it might be prepared for other purposes? Now, how strange! to think how carefully we have been covering up our dung-hills with earth, &c., to prevent the escape of those gases, which for ages have been considered the richest part of the manure! but it would seem that nature, after all, knows best how to carry on her operations; and how will some of our friends, who have thought that they had, long ago, learned all that could be taught on agriculture and husbandry, receive this new *theory!* Will it not astonish them? We are, indeed, even yet, only on the threshold of the science of agriculture!

the different parts to its different purposes, it must be obvious, that any unnatural obstruction to the due exertion of those powers, or any improper substance being taken into the system with the food, must be followed by disorder, disease and destruction. One great power which plants are allowed to possess, and which seems absolutely *necessary* to their well-being, is the decomposition of water and the emission of oxygen; for, from the proportion of oxygen in water being so much greater than in any of the vegetable products, the plant must, of necessity, take up more than it needs; and the great power and activity of oxygen are such, that unless plants had the means of expelling the superfluous quantity, they could not exist, nor could the different products be formed; but plants do not appear to possess the power of *expelling hydrogen*—therefore, whatever quantity of this substance be taken into the system, it must remain and be appropriated."

Here is a new and interesting field for speculation—will your readers cultivate it, and inform us of the result? O.

Sept. 20, 1840.

For the Farmers' Cabinet.

On Farm Buildings and Rural Improvements in Pennsylvania.

A VERY general theme of praise with sojourners through Pennsylvania, is the comparative high state of agriculture as contrasted with most other portions of the Union. The palm has so often been yielded to us, that we are apt to think ourselves, in all respects, perfect, and that no further improvement is necessary, whether for comfort, utility, or reputation.

This oft-repeated praise, if it do not occasion vain glory, is, at least, liable to make us overlook our own faults and deficiencies.

Within the brief limits of this communication I shall attempt to point out and illustrate one of them, which has often occasioned me, as a Pennsylvanian, much regret and mortification. I allude to the style and condition of agricultural and rural buildings generally.

We see everywhere abounding, noble farms in neat and beautiful order—waving fields of grain; luxuriant pasture; rich crops of various kinds, to delight the eye of the traveller, divided and sub-divided by good and clean fences, and chequered by sufficient woodlands and orchards of fruit-trees, to give agreeable variety; with browsing herds of fine cattle, and flocks of sheep, all evincing an advanced state of agriculture, as well as a fertile soil and wealthy population.

But approach the domicile of the owner, or occupant, rich or poor, great or small, and you find too frequently the same dilapidated, neglected, slovenly appearance about the buildings. There is here and there an honourable exception, but they are too rare to affect the national stamp of fine farms and slovenly buildings, devoid of taste and beauty, and without those neat, well-arranged domestic comforts, which every inhabitant of the country, however small his means, may, and should enjoy. It is true, you will meet with many substantial houses, and we have more noble barns than any other state in the Union can boast of. But here the favourable side of the picture generally terminates, for, on looking round, where a fine garden should not only *supply* but also *gratify* the inmates of the house by its neatness, and little rural ornaments, you find beds of weeds and wild vines, instead of garden-fruits, flowers and vegetables. The front yard is probably adorned by a broken-down cart, or a cast-away plough—a wood-pile in one corner, and, very possibly, the pigs reposing in another.

The beauty and rural comfort of a sheltered piazza, decorated and screened by the rose, or woodbine; a few fruit or forest trees to break the piercing rays of the summer's sun; and a clean grass-plat or parterre, all of which cost nothing but a little industry and care, adding infinitely to the felicity of a country life, may be enjoyed by every occupant, whether of a castle or a cottage.

I have said that our *barns* are objects of pride—they are often magnificent—but it is the structures or buildings only, not the *manner* in which they are kept. Whether we examine their internal or external condition, it does not require a close inspection to discover the slovenly manner that prevails about most of them. If you attempt to approach one of these noble "fodder-houses," provide yourself with water-proof boots, or your feet may get a urinary soaking; and, when you enter, be careful of pitch-forks, rakes, &c., lying pell-mell amongst the loose straw and hay, on the floors. The golden rule, of "a place for every thing, and every thing in its place," is too seldom observed by most of us.

In travelling through New England, a few years since, I was highly gratified by the picture of neatness, order and comfort, that everywhere abounded, whether in their numerous villages, or more remote country dwellings. Even their "wood-house" (for almost every habitation had one attached) displayed care and good management. Now, these frugal people have not the same natural means as ours, to possess themselves of such rational and well-ordered enjoyments. It is only by directing their attention, assiduously, to the essential requirements of a happy country-life that they command the admiration of strangers.

That we of Pennsylvania, and most of the

states south of us, are extremely deficient in the order, tastefulness and arrangement of our buildings, and, as a consequence, in every thing connected with them, is a palpable truth that all must admit, who have seen, read or heard of the neat cottage of old England, or the beautiful and well-ordered houses of our Yankee neighbours.

To those who can spare the time and means, a few summer days spent amongst the latter, will afford pleasure and profit to the visiter. It will teach him lessons, on good taste and good management, that, if put in practice, may contribute to remove a blemish from the face of our fair land.

The common apology for neglect and carelessness—for carts, ploughs, implements of all kinds, strewed about and exposed to the weather, which shortens their durability one-half, is *want of time.* But be assured it is not so—the true cause is want of care, of system, and, in some cases, of industry. Again, the planting of trees, where trees ought to grow, will, to be sure, require some time, but so will planting corn, and recollect that trees grow and become valuable without encroaching on your future time—*they* grow whilst *you* sleep. The erection of a cheap shelter to cover and preserve agricultural implements, will incur less expense than a few years' exposure to the sun and rain. A neat portico, a little paint or whitewash, a pale-fence, or other protection, to keep the domestic animals at a respectful distance, and to give an aspect of industry, neatness and comfort, will, it is true, cost something—but the impression, the example, the effect on all around and about you, will be an ample return, teaching and instilling habits of economy, frugality and good taste, which are greatly wanted in our community.

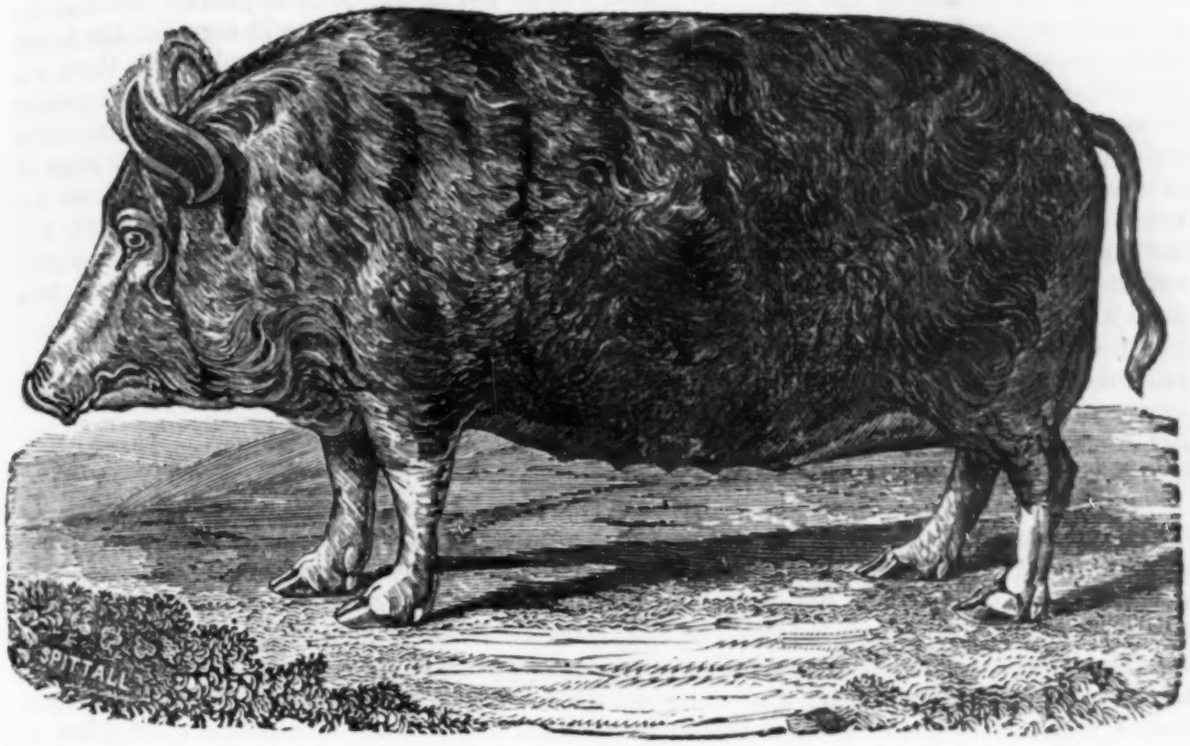
Farther, we "lords of all we survey," and "tillers of the soil," owe something to the fair partners of our toils and cares, and the man who arranges all *without* the house, with well-ordered care, may rely on producing a happy impression *within.* There are few of our fair countrywomen who will not do *their* duty, and give *their* kind and skilful aid when cheered on by their sterner companions. Where you see a man who displays care, management and good taste, rest assured that the wife, with her domestic circle, emulates, if not excels him. A Subscriber.

The unproductiveness of our soil is not the necessary consequence of want of labourers; it is occasioned by the progress of sloth and indolence, and ought to alarm our fears; it is this which induces the idle portion of our people to prefer the more precarious works of the manufacturer to the rough but more manly exercises of the husbandman.

Rearing Chickens.

Having made some experiments in the raising of chickens, a business that forms a part of every farmer's occupation, I send you a description of my present plan of operation, which appears to answer admirably. Under an out-house, 16 by 18 feet square, raised 3 feet above the ground, I have dug a cellar, 3 feet below the ground, making the height 6 feet altogether. Eight feet in width of this cellar is partitioned off for turnips, the remaining, 10 by 16 feet, being sufficiently large to accommodate 100 chickens, or even more. This cellar is enclosed with boards at present, but it is intended to substitute brick walls in a year or two. The roost is made sloping from the roof to within 18 inches of the ground or floor; 12 feet long by 6 feet wide. The roost is formed in this way: two pieces of 2 inch plank, 6 inches wide and 12 feet long, are fastened parallel 5 feet apart by a spike or pin to the joist above, the lower end resting on a post 18 inches above the ground. Notches are made along the upper edge of these plank, one foot apart, to receive sticks or poles from the woods, the bark on. When it is desirable to clean out the roost, the poles being loose are removed; the supports working on a pivot, are raised and fastened up, then all is clear for the work of clearing out. I next provide the chickens with corn, oats, and buckwheat, in 3 separate apartments, holding about half a bushel each, which are kept always supplied. They eat less, I find, if allowed to help themselves to what they want, than if fed to them in the usual way; for in the latter case each tries to get as much as it can, and thus burdens itself, but finding in the former case that they have abundance, they eat little and that generally in the morning early, and in the evening going to roost. I have 60 chickens, and they eat about 6 quarts per day of the three kinds of grain, in the proportion of twice as much corn as buckwheat or oats. In the roost is also a trough of water, renewed every other day; burnt oyster-shells, shell-marl and ashes. A row of nests is constructed after a plan of my own, and does well. It is a box 10 feet long and 18 inches wide; the bottom level, the top sloping at an angle of 45 degrees to prevent the chickens roosting on it; the top opens on hinges. The nests, eight in number, are one foot square; the remaining six inches of the width is a passage-way next to the wall, open at each end of the box, and another opening midway of the box. The advantage is to give the hens the *apparent* secrecy they are so fond of.

When fed plentifully in the winter, hens lay enough eggs to pay for the grain, and in the spring they will repay fourfold.—*Cultivator.* E. H. Vanuxm.



THE BERKSHIRE HOG.

By the liberality of a valued friend to the Farmers' Cabinet, we are enabled to give an engraving of the Berkshire hog, from Professor Low's grand work, "Illustrations of the breeds of domestic animals of the British Islands." It forms, in the third number of that expensive publication, the last of four plates on the subject of the hog, and is decidedly the most valuable of all that have preceded it. It may be considered faithful in all its parts, the head only excepted, which, in the living animal, has that peculiar fineness which *ought* ever to characterize—and which almost uniformly *does* characterize—those of that distinguished breed: but as the object was to give a representation of the animal as it appears in Professor Low's book, that *feature* also is retained and delineated, as it is. The plate there, is most beautifully coloured, a fine rich yellow-brown and black, which is still descriptive of the true Berkshire hog.

Here follows Professor Low's account of that peculiar breed of hogs, with remarks on others, with which it has been crossed, and by which the present fashionable breed has been obtained.

"Those varieties of the swine of England, which have received the name of *breeds*, have been usually named from the counties, or places where they have been reared in numbers—thus we have the *Hampshire*, the *Suffolk*, the *Berkshire*, and other breeds, each supposed to be distinguished by a set of common characters. Of these breeds, one of the earliest improved was the Berkshire, so named from the county of that name; but the principal improvement of the breed was made in the counties farther north, chiefly in Leicestershire and Staffordshire. It still retains, however, its original designation, and the Berkshire has long been known as one of the most generally-spread of the improved breeds of England.

The true Berkshires are of the larger races of swine, although they fall short in size of some of the older breeds, as the *Hampshire*, the *Rudgwick* and some others. They are usually of a *reddish brown colour*, with brown or black spots—a character which makes it appear that one of the means employed to improve them, was a cross with the *wild boar*. The Berkshire has long been regarded as one of the superior breeds of England, combining size with a sufficient aptitude to fatten, and as being fitted for pork and bacon; it has been regarded also as the *hardiest* of the more improved races. The Berkshire breed has, like every other, been crossed and re-crossed with the Chinese or Chinese crosses, so as to lessen the size of the animals, and render them more suited to the demand which has arisen for small and delicate pork. Many of the modern breed are nearly black, indicating their approach to the Siamese character, and sometimes they are black, broken with white, showing the effect of the cross with the white Chinese:

from this intermixture, it becomes in many cases difficult to recognise, in the present race, the characters of the *true* Berkshire. And although no doubt can exist with respect to the great benefit that has arisen from diminishing the size and coarseness of the former swine of England, yet assuredly there should be *limits* to this diminution in the size of the hog, as of every other animal cultivated for food; and, in many cases, the diminution of size has been merely to suit the caprice of taste. The larger kinds of pigs do not find a ready sale in the markets of great cities, and hence, the more essential property of an abundant production of butcher's meat is sacrificed; but we should remember that the supply of pork is of immense importance to the support of the inhabitants of every country, for in the state of bacon it is largely consumed by the mass of the people, and in the salted state, it is used in the supplies of shipping—it is not, therefore, for the general good, that the old breeds of England should be merged in the smaller races of China and other countries; and while we should improve by every means the larger breeds that are left us, we should take care that we do not sacrifice them altogether; *the country might one day regret that this over-refinement has been practised, and future improvers exert themselves in vain to recover those fine old breeds which had been abandoned!* In place of unceasing crossing with the smaller breeds, it would be more praiseworthy and beneficial, to apply to our larger races those principles of breeding which, in the case of other animals, have succeeded. By mere selection of the parents, we could remove all the defective characters of the larger breeds, and give to them all the degree of fineness which consists with their bulk of body; *for there is no animal so easily changed in form, and moulded to our purposes, as the hog.*

Hogs are from time to time brought by our innumerable shipping, from the countries of the Mediterranean, as Italy, Turkey, Spain, and mingled with the swine of the country. Of the Mediterranean breeds, the Maltese was at one time in favour; it was of small size, black colour, nearly destitute of bristles, and capable of fattening quickly; but at the present time, a breed from the country near Naples has been introduced, and has been employed very extensively to cross the other breeds: this breed, like the Maltese, is of small size, and of a black colour: it is nearly destitute of hair or bristles, but on being bred several times in this country, the bristles come: the flesh is exceedingly good, but the animals themselves are destitute of hardiness, and unsuited for general use, but they have been made to cross the other swine of the country, and the progeny exhibit much fineness of form and aptitude to fatten: their flesh too is delicate, on which account the Neapolitan crosses are in considerable favour in several parts of England. But there are other races of Italy which might, with greater benefit than that of Naples, have been introduced into this country; the best hogs of Italy are supposed to be produced in the Duchy of Parma; they are of larger size than those of Naples, while they possess even greater aptitude to fatten, and yield pork equally white and delicate."

Philadelphia, 28th Sept. 1840.

For the Farmers' Cabinet.

Scald your Seeds.

Mr. Editor,—Just when I received the number of the Cabinet for August, a friend put into my hand an agricultural paper, containing strong recommendations to *scald* seeds before sowing, and I had an opportunity to read that, and the article inserted at p. 40 of the Cabinet, on the same subject, at the same time. Now how is a man to act when he meets with things in print so *diabolically* opposite! (as an old friend expresses it, who uses that word for *diametrically*). I am glad, however, that you have taken a right view of the position of agricultural periodical publications; they are, as you say, merely the means of communication between man and man, and this is, in fact, their great value; and when this comes to be better understood, practical men will not be so averse to committing their experience to paper, for it is to them we are to look for reconciling such discrepancies. True, in some of these accounts there are many weeds sown with the grain, but a thorough-bred farmer knows how to distinguish between them, and how to root out the one while he preserves the other; and although the following extract shows the crop to have been *broad-cast* and much at random, it is yet worth while to sift the chaff and preserve the grain; but in this, as in every thing else, he must be guided by common sense and plain reason: then he will go right, never fear.

Steeping seeds in warm water, of different degrees of heat, according to the state of the weather, and the nature of the seed to be operated upon, is no doubt good; but who would recommend *fuming* hot water to be poured upon clover-seed, as upon the seed of beet, and others of the like kinds, defended, as they are, by a casing so thick and rough! It is not, however, *necessary* to use warm water for this purpose: cold water is sufficient, if it be applied in time to give the seed a start before sowing, and thus all the good might be obtained without the slightest dan-

ger. Now, in preparing carrot-seed for sowing, I mingle with it a little sandy loam, and sprinkle the whole with cold water; when fermentation commences, I turn the heap carefully now and then, and when I see the seeds are sprouting, I sow all upon a fresh pulverized surface and roll in; then the crop is up before the weeds have made their appearance, and it is my fault if they ever after get the upper hand: this method is, I believe, equally applicable to every other kind of seed, and answers a far better purpose than swelling them by sudden and artificial heat. But I must hand you the following for republication.

It is strange, while giving directions, especially for apportioning the several articles which go to make up a mixture, that persons are not more careful in describing the measures of quantity to be used; now a tea-cup full is a very undefined measure, for I indulge in one that holds about a pint; while a *pinch* is still more vague, for if my neighbour Clementson's two fingers and thumb *could* be inserted into a pint mug, they would, I am thinking, soon find their way to the bottom; and yet, these measures are defined to a nicety, when compared with the quantity, *some*—(take *some* brandy, for instance)—this is about as bad as the directions for brewing, where it is said, "pour your boiling water into the mash-tub and let it cool a little, and when it bites the finger *pretty freely*, then add the malt." Now there again, my neighbour Clementson would be at a loss to know how to act; I am not sure that any water would be inclined to bite his finger at all; I think it would be apt to decline the offer—but, seriously, are any of the above directions much more *outre* than those which follow?

"Great losses are often sustained by neglecting to *scald* seeds before planting, for some entirely fail to grow, and others remain a long time in the ground dormant, when they ought to be up and growing. About a fortnight ago, we planted some seeds of the cypress vine, and, being in haste, we could not take time to scald them; about a week after, we scalded some—these are now up, but the first sown have not yet appeared.—But we write for farmers as well as gardeners—four days ago we scalded some seeds of the sugar-beet and left them remain in the water: this morning we planted them, and many of them were sprouted; last year we planted mangel-wurzel without scalding, but we shall not do so again; in the wettest ground they germinated freely, but in the driest and richest part, they stood far asunder, not half a crop.

We are not aware that *any seeds are injured by scalding*, though there may be many; and we should be gratified to have extensive experiments instituted upon this subject. Some seeds would probably bear more heat than others—we know that some are more benefited than others; the duration of the heat applied will be regulated in some measure by the quantity of water and the kind of vessel into which it is poured, some cooling much sooner than others; several quarts of corn may be safely scalded together; other seeds may not need more than a tea-cup full of water, but let it be *fuming hot!* Remember, however, there is a wide difference between *scalding* and *boiling*;* and, after the water is applied, the vessel should be set away from the fire: on seeds *untried*, it would be prudent to use but little water.

Some years ago, we planted seeds of *cercis canadensis*; part were scalded, and part were planted without that preparation; a difference in the germination was the consequence—very few of the unscalded seeds grew.

One week in the advancement of a crop of corn or pumpkins is frequently of great account, and the farmer may be prevented from planting at the right time by accident or bad weather; in such cases let them try this remedy." SUBSCRIBER.

Coping of Stone Walls.

A MOST remarkable evidence of the benefit of shelter, and the consequences of the want of it, may be stated as follows, namely: where a wall has been raised of a certain height, and trees planted within it, the trees are *cut* by the blast as if by a hedge-knife, *exactly in the direction the blast has received from the coping of the wall*; that is, if the wall is flat at top, the trees have suffered far in; if the angle of the top is small, the cut of the trees is exactly of the same angle, and extends far in, in proportion to the flatness of the angle; but if the angle is very *acute* and sends the blast almost directly upwards, the wood almost escapes; the tree by the wall is slightly cut, and no more. These facts may not before have been noticed in scientific publications, but they are open to every observer, and they suggest many ideas of the utmost importance as regards the erection of walls in exposed situations, particularly around the enclosed winter cattle-yards, and other enclosures around the homestall and gardens of the farm; observing always, that the angle be *acute*, so as to send the blast—which in all cases will obey it more or less—almost directly upwards.—*Donald Bain.*

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* The writer should have defined the difference between *fuming*, *scalding* and *boiling*; it might easily have been done by comparing them to *three pieces of chalk!*

For the Farmers' Cabinet.

In our previous remarks, respecting the treatment of sick animals, our principal aim has been the prevention of evil—by directing attention to sound principles, a distrust of empirical remedies, and an unwillingness to interfere with the salutary operations of nature—in the full confidence that if the owner of an animal only prescribed as he could give a sound reason for his course, the mild cases at least would generally recover—but as some of difficulty and greater severity will arise, we propose, in this paper, to give some hints

ON THE SELECTION OF A DOCTOR FOR SICK ANIMALS.

To prescribe properly for a sick or injured animal, the doctor should be perfectly familiar with the structure of every part of the body, and this constitutes the *anatomy*—he should also understand the uses of the different parts, and the manner in which the various functions are performed in health, or the *physiology*—he should understand what changes in a part produce certain symptoms, the causes and effects of diseases, or the *pathology*, and where the same symptoms may be produced by more than one cause—he should have a discriminating mind, to be able to decide upon which it may depend—he should have a thorough knowledge of the means he employs to remove disease, his *remedies*, and should be familiar with their effects upon the healthy and diseased body—he should be able to avail himself of *all* the resources which *nature* and *science* have placed at his disposal, and not be guilty of the folly of trusting to *one* article, or *one set* of articles, for the relief of diseases of the most opposite character, or for the same disease in its different stages.

To attain all this, we shall be told, will require much time, labour, money and hard study, and, to do it *well*, certain *mental* qualifications which all do not possess—granted—and that only proves, that many undertake to treat *all* the complaints of sick cattle, who are totally unqualified, both by nature and education, and with a confidence too, which nothing but ignorance could impart.

If our domestic animals are worth caring for, it ought to be made an object for some to prepare themselves thoroughly for all the difficult cases, and to be ready to come to the farmer's assistance, when his knowledge and means fail.

To take a proper view of the subject, we should look upon every one of our animals as a most complicated *machine*, which, when it gets deranged, requires a *skilful mechanic* to put it in order; and to make any man a skilful mechanic, carpenter, millwright or machinist, every one knows, requires several years of *active* apprenticeship—not to get theoretical notions—but *practical* knowledge—*working* himself, under the direction of those who had gone through the same course before him.

Let us appeal to *common sense* a little further in this matter. What farmer, whose *threshing-machine* gets broken or fails to work well, would send for his *tailor* to put it in order, or would ask his *hatter* to superintend its repair—both of whom knew nothing of the different parts that composed the machine or its anatomy—nor how it worked when it was in order, or its physiology, nor what means could be made use of to put all right—the remedies?—And what would he think of the man who should take a saw or a hatchet and declare *that* was the only tool he employed in his "system" of mechanics, or of another who persisted that planes or chisels of different sizes or kinds were all the tools that ought to be used to repair any machine! This would appear supremely ridiculous to the most superficial observer, and yet it is not one jot more so than the course of the ignorant doctor, or of him who depends upon *one* remedy, or one set of remedies!

We must recollect, too, that an ox, or a horse, or a sheep is much more complicated and delicate in its structure than any threshing-machine, and withal possesses *life*, which adds vastly to the difficulty of repair and the facility with which injury is done by an ignorant workman. There is also another material difference—if the hatter, or tailor, or he who works only with a hatchet, has, by some accident, got the different parts put together and the owner finds one-half of the threshing-machine spoiled, and that it will not thresh at all—he still has one resource; a skilful mechanic may yet be called upon, who will replace the bad timber with good—take out the spoiled part of the work—the wheels, or the frame, or the running gears, or whatever it may be—and, by substituting new ones, all goes on well again. Not so in the *animal* machine—if the bad workman has *ruined* the stomach, or the bowels, or the *running gears*, or any other part, the skillful man who comes afterwards is not able, as in the threshing-machine, to take out the spoiled work and put in a good stomach, or a sound eye or leg, in the place of those that have been destroyed. Bad as the machine may work, its defects cannot be remedied, and sometimes the result is still more melancholy, it not only does not work well, but it does not work at all; in losing its grand characteristic, *life*, it loses all that makes it valuable to its owner. T.

Sept. 21, 1840.

To the Editor of the Farmers' Cabinet.

Beet Sugar.

Sir,—It appears that at length the manufacture of beet sugar is about to be taken up on a scale, and with capital sufficient, to insure success. Mr. Strother M. Helm, of Newhaven, Nelson co., Kentucky, advertises for a person suitable to carry on the business, and capable of conducting a large establishment to final results. He will furnish 1300 acres of land, on the Mississippi, perfectly dry, and capable of producing 100 bushels of corn per acre, all the hands and other means necessary to carry on the business advantageously, giving to any such competent person a liberal compensation for his services, out of the profits of the concern. It is, therefore, to be hoped that the person who shall be selected, will be competent to the undertaking in all its parts; and the establishment of one sugar-house in that interesting part of the country, will be the signal for others along the line of the river, to its utmost extent; for, let it be remembered, as has been said by every one who has written upon the subject, it would appear that *about* as many head of cattle and sheep can be supported from the refuse of a beet sugar-house as upon the crop before crushing.

I copy the following from the Monthly Visitor, as taken from the Boston Evening Journal. "The sugar imported into Great Britain last year, compared with the average import of the years from 1830 to 1839, has fallen off 40,000 tons: England will, therefore, have to commence the cultivation of the beet-root. The quantity of sugar manufactured from this root, on the continent of Europe, is astonishing, and is constantly increasing. In France there are now 800 manufactories, producing 60,000 tons annually; in Holland, the manufacture is rapidly extending, and one establishment, in Guelderland, consumes in the process 5,000,000 of pounds of beets annually. In Prussia and Central Germany the same efforts are making, and the quantity manufactured in 1838 amounted to about eleven millions of pounds of sugar, but at present it is very considerably more. In Austria, at the close of 1838, the quantity manufactured exceeded nine thousand tons, and in Bohemia alone, the number of beet sugar establishments amounted to eighty-seven. In Russia also, the manufacture is equally on the increase, and is pushed with great activity, the cultivation of hemp being abandoned in many instances for sugar beet; while in Moscow and the neighbourhood, the beet sugar establishments are said to have increased in number, at the average of forty per annum.

Sugar may now be regarded as one of the necessaries of life; it cannot be dispensed with by rich or poor; within the last half century, the consumption of sugar has greatly increased, for in 1791 the whole amount of sugar manufactured for sale amounted to 480,000, in 1831 it had risen to 715,000, and at the present time it is in all probability over 750,000 tons. The amount of sugar manufactured in Louisiana is about 35,000 annually, a very small part of our consumption.

An *attempt** is now making to introduce the culture of the beet-root into the United States; the experiment is worth *trying*, and we hope will prove successful: according to Mr. Fleichman, an acre of *good* cultivated land will produce on an average 20† tons of the beet-root, one ton of which yields, when treated after the *new mode*, 180 pounds of *refined* sugar; the cost of manufacturing a ton of beets into sugar is estimated at six dollars, at the highest, and 180 pounds of *refined* beet sugar would sell for eleven dollars, or $6\frac{1}{18}$ cents per pound."

Now, Mr. Editor, this account of Mr. Fleichman's is a very singular one; his estimate for manufacturing *refined sugar*, as well as the produce from the beet, and the *selling price*—none of them seem to be so near the mark as the yield per acre, on good and well-cultivated land, for in that he was but about half out in his calculation—such accounts are *calculated* to bring the whole subject into suspicion: why Mr. Child, who professes to have been operating upon a still more improved system than any, admits that refined sugar cannot be made for less than 11 cents per pound, and if it were *sold* for that, I suppose there would be no profit—these estimates remind one of those which have been made on the *acreable* products of silk!

One word, by-the-bye, on the new mode of making beet sugar, that is, by dessication—many of the first manufacturers in France—amongst the rest Mons. Crespel, of Arras, who has four large manufactories in successful operation the present year, and at one of which he will make a thousand hogsheads of sugar for the refineries at Paris—are convinced that the thing is impracticable on a large scale, and they still continue to operate by crushing with the rasp; by an improvement of the after process, however, they are enabled to realize a larger quantity of sugar and of better quality, and to shorten the process very considerably; but before this last improvement, the cost of manufacture was not more than four cents and a half per pound;

* The *attempt* was made by the beet sugar Society of Philadelphia, four years ago, and has proved *perfectly successful.*

† Mr. Fleichman must *guess* again—he is but just about half right yet—40 or 45 would be nearer.

that is, of brown sugar for the refineries—those who know anything of the *refining* of sugar, will not be likely to err greatly in the cost of that expensive process, which is, strictly speaking, independent of what might be termed *sugar-making;* the two processes not being carried on in France on the same premises, or by the same persons.

And another word on the varieties of the beet, as they are described in Mr. Childs' book "on beet and beet-sugar:" he says, "the root of the mangelwurzel is *white, within and without;* and the white Silesian, or sugar beet, is *pear-shaped*, and shorter than any other of the species of beets; *it grows entirely within the ground*, except it meet with some obstruction, in which case the exposed part becomes green, and loses a portion of its sugar." Now, I have before me at the present time, about 4 acres of these two varieties of the beet, and for my life I cannot tell what he means; the mangelwurzel *white*, inside and out? Why mine are red! The sugar beets *pear-shaped* and growing *entirely within* the ground? Then mine have all met with *obstructions*, for I declare there is scarcely one of them more than one-third of their substance within the ground, although the land is as light as an ash-heap comparatively; nor can they be very *short*, to weigh fifteen or twenty pounds apiece, as I expect many of them to do.

D*.

For the Farmers' Cabinet.

Rotation of Crops.

Mr. Editor,—In your very valuable paper, "The Farmers' Cabinet," I have found contained much valuable information on the subject of agriculture, from the application of which, in many instances, I have realized immense benefit. One question, however, of paramount interest to farmers, still remains unsettled, and that is, as to *what system of rotation of crops should be adopted*, with a view to immediate profits, and the continual improvement of the soil. I have carefully remarked many experiments, which have been made in my own neighbourhood, in this particular branch of husbandry, and, among the many instances of failure, there has been one of success, which it is my present purpose to communicate, for the benefit of such as may see proper to improve the hint. The example to which I refer is that of an old, practical, hard-working farmer, who commenced in the world as a day-labourer, and who is now worth, at least, one hundred thousand dollars, not taking into the account many heavy pecuniary losses he has, at various times, sustained. This man, when thirty years of age, by the avails of his industry, added to a small legacy, was enabled to purchase and pay, in part, for a farm of one hundred and thirty acres of land, one hundred of which was under cultivation, but in a very low state. This farm is altogether upland, with a soil composed of lime, clay and sand, in chief of which the latter preponderates, the former being least considerable. When he commenced farming, he adopted a particular system of rotation, to which he has implicitly adhered from that time to the present, which is forty years, and his success is the best comment on the worth of his experiment. His mode was as follows: having divided his farm into eight fields of equal size, as nearly as possible, three of these fields are sowed with wheat each year, one with rye, one planted with corn, two in clover, and one an open fallow, on which corn had been raised the year previous. One of the two clover-fields is kept for mowing, the other for pasture, both of which are ploughed as soon after harvest as possible, and prepared for wheat in the fall. All the manure which is made on the farm for one year is hauled, in the spring, on the field intended for open fallow, which is then ploughed, and after one or two cross-ploughings through the summer, is also sowed with wheat in the fall. The field on which rye is sown, is that from which a crop of wheat had been taken the same year, and which had yielded three crops of wheat alternating with crops of clover. Corn is planted on the field from which rye had been gathered the year previous, the stubbles of which are ploughed down in the fall. Clover-seed is sown early in the spring on two of the wheat-fields, those which have been most recently manured. By this method, each field yields three crops of wheat, two of clover, one of rye and one of corn, every eight years. Each field, in the meantime, has lain an open fallow, and received a heavy dressing of manure, perhaps at an average of fifteen four-horse loads per acre. His crop of wheat is seldom less than fifteen hundred bushels, but often much more. His average rye-crop is about four hundred and fifty bushels, and his corn-crop, annually, about five hundred bushels—all which grain, at the present low prices, would amount to more than TWO THOUSAND DOLLARS ANNUALLY—and at former prices to double that amount—and his farm is withal very highly improved.

Yours, P. W.

The Farmers of Pennsylvania to Dr. Franklin, when he offered them Dr. Eliot's celebrated Essays on Field Husbandry.

"We want no information on husbandry, we know all about it: give us labour, we want not your books of information."

To the Editor of the Farmers' Cabinet.

The Cut-Worm.

Sir,—How almost universal is the notion that the cut-worm feeds upon the grass which is turned down on the sod late in the spring, as a seed-bed for the corn-crop! Now, I believe he is of a very different disposition, and not likely to prefer old sod to new corn; for, if this were so, our friends—even those who are accustomed to delay their ploughing for the purpose of thus feeding them—would not so often be compelled to re-plant, for the third time, their corn-crops, while such abundance of sod still remains in the land, preserved, too, for the especial purpose of saving the crop from destruction: depend upon it, such is not the fact, and I have abundant reason to know that the notion is erroneous.

I am an advocate for autumnal ploughing to the greatest extent, especially as preparatory for the corn-crop on lay, or old sod land, and I will tell you why. This lay, we will suppose, has been fed with horses and cattle, perhaps for several years; and we know that it is from the droppings of cattle that the bugs of every description make their nests, in which to deposit their eggs or nits; and every one must have observed the curious manner in which the different species carry on this labour, and how, that as soon as they have accumulated a sufficient quantity of dung to form a ball, they sink it to a certain depth into the soil, by *undermining* it, so as to let it drop by its own weight so gently as not to disturb or change the position in which it was carefully placed before the operation of undermining was commenced. Now, I have no doubt, this ball of dung has, by some process, been rendered water and weather-proof on its top surface, and that, therefore, it is capable of resisting the rain and frost of the winter unharmed, sheltered by such a weather-proof, neatly-formed, and elegantly-rounded roofing above. But the act of turning the sod before winter, reverses the order of this wise arrangement, and not only exposes these balls to the action of the rains and frosts, but, *supposing* the top of each ball to be water-proof, it then becomes an impervious cup, in which the water might be supposed to be retained, to the destruction of the egg, or whatever the deposit might have been.

Now this *theory* if you please, appears so feasible, that one would suppose it might carry some weight with it, on that very account, and yet an old neighbour at my elbow is even now exclaiming, "I tell you I have tried it, and it will not do any how you can fix it; it is all *theori*, and that you may depend upon." But I tell him I have found that it *will do*, if the work be properly done; but then all the land must be turned up, for if half of it be left unremoved, it is but reasonable to expect that at least one-half the number of nests will remain uninjured; and these will furnish myriads of cut-worms to prey upon the corn-crop. And my old friend admits that he has not been over-particular in his ploughing, considering it, at that season of the year, only a piece of sham-work, as he calls it, with the furrow-slice about eighteen inches wide, and not always ploughed clean or turned over—a sort of raftering, as he terms it—so that, from his own account, it is easy to conceive why *he* has not found autumnal ploughing effectual for the purpose of destroying the cut-worm. I am particularly nice about this part of the business, for, after ascertaining the depth to which it is necessary to penetrate, to turn up the dung-balls, I am careful to set the plough thereto, and then, by not taking a furrow wider than I can turn well over, and determining not to leave an inch of the land unremoved, I am sure to succeed in my plan of destroying the eggs of the cut-worm, which is far better than to keep them to feed in the spring upon the sod turned down for their benefit; for I say, as did your correspondent, at page 376 of the 4th vol. of the Cabinet, "I could not bear to turn cut-worm feeder."

But, what would we say to a gardener who should argue against autumnal cultivation, with the view to supply his vermin with plenty of food in the spring? Farming is *gardening* in all true principles; and it is a fact, that spade-labour in the field would relieve us from nine-tenths of the evils that we have at present to encounter, as is well known in those countries where, *unfortunately*, the price of manual labour is so poorly paid as to warrant its adoption. I know, that to many it appears almost paradoxical, how we, in this country and climate, with a set of agricultural implements far superior to those in use in any other country under the sun, *contrive* to do so much of our field-labour so ineffectually as we do; and were it not for the notion I have taken up—and which I have reason to believe is just, namely, that all our occupations are performed too hastily—I should myself be quite unable to account for it; and here is the proof—my old friend at my elbow is at this moment boasting of having ploughed two acres and a half a day, "ploughing round and round, with a furrow about a foot and a half wide, with a pair of horses, tickling up their tails" as he expresses it, "in a way 't would do you good to look at." Depend upon it, this is the cause; but if we would give our lands *three*-times the ploughing and *four*-times the harrowing, rolling and cleaning, that they now receive, and all applied with *five*-times the care, we should find the benefit resulting therefrom to be *ten*-

times the value at harvest, as well as in our future operations.

Now, I know of no one who takes more pains in the after-cultivation of his corn than my ancient friend abovementioned; he is sure to be the first in all its different workings and counterworkings, its cross-ploughings and cross-hoeings, and it is a "savour of a sweet smell," when his neighbours assure him there is no crop in the country that can compare with his; and yet, strange to say, all his other labours are neglected; his other crops are grown over with weeds, which stare at you over the fence as you walk along, and it is in vain to look for his hills of potatoes until the weeds are mown off with the scythe; for he has found that no crop, except corn, will pay for the labour of cleaning! But the fact is, the management of his corn-crop has grown into a *propensity*, as Frank says in the dialogues, and *that* he must indulge in, even if it be to the neglect of almost every other duty upon the farm; and to give him time for this, all other operations are hurried and only half performed: indeed, wherever the corn has failed in a hill, you will always see its place occupied by some large weed, which about keeps pace in growth with the corn, having received with it the regular cleaning and cultivation with the hoe-harrow; but it is not removed, because there is no time for it! And the weeds around the sides of the said corn are, in the meantime, permitted to grow and flourish and perfect and shed their seeds unmolested, because there is no time for their eradication, no, not even with the scythe! I often think, while walking over his fields with my old friend, if I were his minister, I would now and then give him a *touch* from the words, "these ought ye to have done, and not to leave the other undone."

No one can tell the advantage of superior cultivation of the soil, and the benefit to the crop from the total eradication of weeds! The crop is increased thereby, not only in quantity but in quality also. It has been calculated that a strong weed, growing in a crop of wheat, will draw away a great portion of the nourishment from six plants of the wheat! thus rendering the produce inferior, both in the quality and quantity—a matter of the most serious importance. And Col. Smith has shown by an account, published in the Germantown Telegraph of the 12th of August, that merely by the power of superior cultivation, he has this year obtained a crop of most excellent hay, amounting to more than two tons per acre, from land that has had no manure for the last nine years! He states as follows: he has a field belonging to his farm, which has not been manured for *nine* years, and yet it yielded, the present season, more than two tons of superior hay per acre. The first six years of the nine it was in grass; then corn, then oats, and then grass again. He attributed this unusual success, on a soil only ordinarily good, to the high degree of tillage which it received, and the entire annihilation of weeds.

The lesson to be learnt from this is, one-half the quantity of manure might be saved by superior tillage and the eradication of one-half the crop—*the weeds*—*that* being about the proportion to the grain, throughout a great part of the country. But is it a fact, that agriculture will not pay for good management? Then the cultivation of the soil is the *only science* that will not pay a premium upon the outlay of skill and capital that may be embarked therein.

But this is the season to plough for the destruction of the cut-worm, and, if we would set honestly to the task, there is no doubt it would be accomplished: lands ploughed deep and laid up dry for the winter will be benefited to the extent of a dressing of manure, and can be cultivated much earlier and to greater advantage in the spring: in short, *autumnal ploughing is the soul of good husbandry.*

Vir.

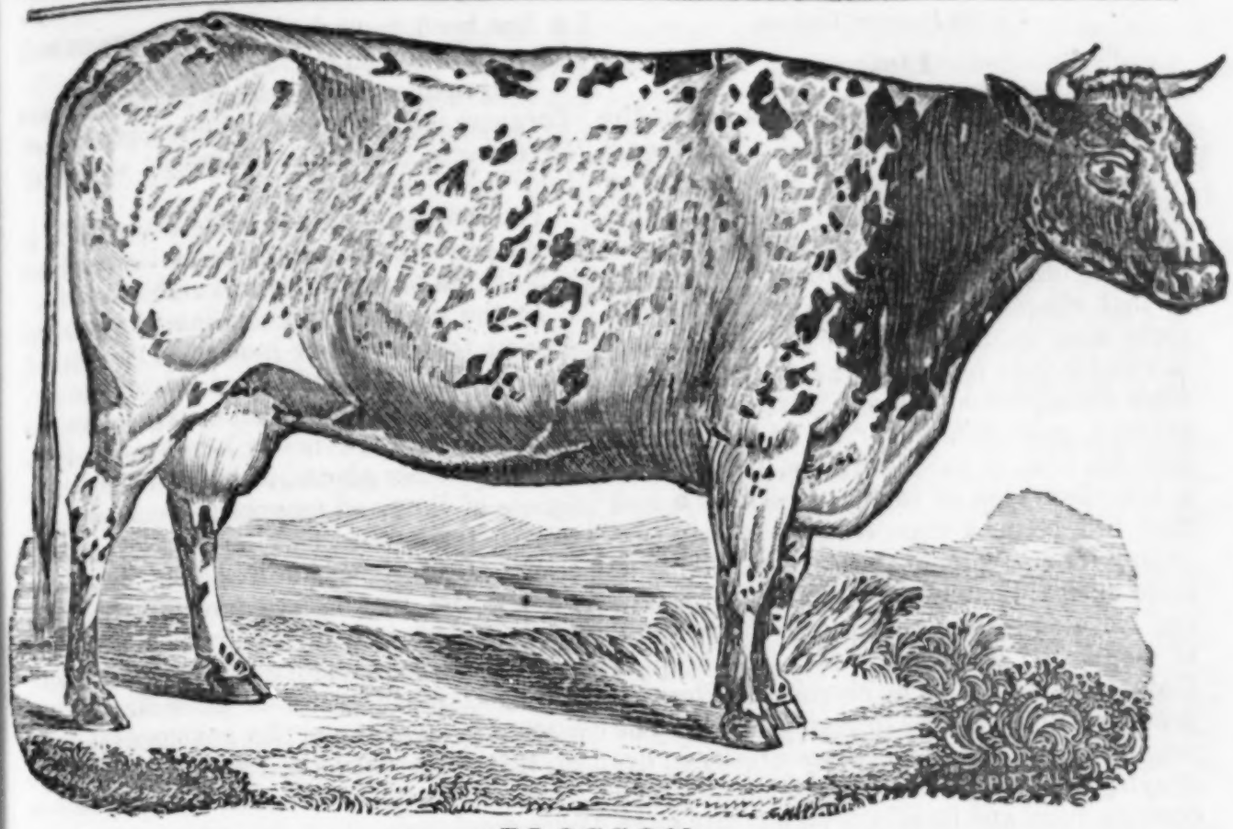
To the Editor of the Farmers' Cabinet.

Rearing Hogs.

Mr. Editor,—I wish to add my testimony to that of "Siam," at page 42 of the Cabinet for August; I have never been able to rear the first litter of pigs from a young sow with credit to myself, or profit to any one, and it is now my practice to kill them for roasters, rather than make another attempt. I have, however, seen some who have been more fortunate, but, as a general rule, I believe the thing, as I have stated it, is well established; and in a paper, which I have now before me, "The Carolina Planter," I find the following observation.

"It is a fact of common observation, with even our old servants who have long been hog-minders, that the first litter of pigs from a young sow, or, as they call them, *gilt pigs*, are naturally of a feeble constitution and unthrifty, and difficult to raise, and even if raised, never perhaps acquire the size and weight that litters of the same sow do afterwards." And, in addition to this, I would say, I have raised more than twenty calves from young cows—their first calves—and have never failed in obtaining them fine, strong and healthy; nay, if I were to double the number, I should not be beyond the truth. Can any of your readers account for a phenomenon that is so generally accredited, as to have grown into a proverb—"the calf of a young cow, the pig of an old sow."

†.



BLOSSOM.

The property of Samuel Canby, Esq., of Woodside, Delaware.

PEDIGREE—BLOSSOM, roan, calved in 1835; bred by C. H. Hall, Esq., of New York; got by Fox's Regent, dam Leonora, (a great and constant milker, imported by Alderman Ferris of New York), by a son of Lancaster; g. d. out of Elvira, by Young Phenomenon, and he by Favourite. Fox's Regent, (sire of Blossom, bred by C. H. Hall), was got by Imported Regent, dam Snowdrop, got in England by Fitz Favourite, and the first heifer dropped in America, by Blanche, a great milker, presented by Admiral Sir Isaac Coffin to Mr. Hall.

THIS remarkable animal (remarkable for her *breeding* as for her *milking*) is a beautiful roan, with a countenance the most gentle that can be conceived. Her capacity for deep milking is observable in the peculiar formation of the udder, and prominent milk-vein, her quiet and peaceable disposition tending greatly to the secretion of that flow of milk, which has never ceased since the day of her first calving, which was on the 5th of April, 1838. On the 4th of July she brought twins, *Liberty* and *Independence*, and on the 16th of May, 1840, she had twins the second time! These were named *Romeo* and *Juliet*. Thus has this wonderful animal brought forth *five* living calves in the space of twenty-five months! Her milk has averaged twenty quarts per day during the whole of this time, and with her first calf she gave twenty-five quarts per day, making nearly twelve pounds of butter per week. Such constant draining has justly been considered unfavourable to health and bodily strength, and for this reason she has never carried much flesh; but it has been found impossible to dry her milk, even for a few days, before calving, although she has been kept from grass for that purpose: her condition, however, is generally good, and she shows great vigour and sprightliness. She is again in calf, by the imported bull Washington Irving, and her time is calculated for the month of March. Her first calf, *Delaware*, took the first premium at the late exhibition of the Delaware State Agricultural Society, held at Wilmington, as "the best animal raised in the county."

But it is a singular circumstance, that her last twins, *Romeo* and *Juliet*, are white, although her own colour is roan, and that is also the colour of the bull! This shows that she is breeding back, being herself descended from *Comet*, 155 (1,000 guineas), who was white.

Here follows an account of Blossom's yield of milk for one week:

	MORNING.	NOON.	EVENING.	TOTAL.
June 13,	12 quarts	11½	11½	34½
" 14,	12½	11½	11	34½
" 15,	12½	11	11½	35
" 16,	12½	12½	11	36
" 17,	12½	11½	11	35
" 18,	13	12	11½	36½
" 19,	13½	11½	11	36
			Total,	247½

Being on an average over thirty-five quarts per day, yielding 13¼ lbs. of well-worked butter, one month from the time of her calving.

For the Farmers' Cabinet.

Lime.

Several essays having appeared in the Cabinet indicating the opinion that magnesian lime was injurious to the growth of plants, and as the lime which has been so extensively and so beneficially used in Pennsylvania, is understood to be almost exclusively of that character, I have been induced to make some examination into the subject, and to extract from recent works the opinions of some distinguished authors. Bakewell, in his geology, page 390, says, "On the summit of Breedon Hill, in Leicestershire, I have seen a luxuriant crop of barley, growing on land that had borne a succession of twenty preceding crops without manuring. This is more deserving notice, being in an exposed and elevated situation, and upon the very hill of magnesian limestone, which has been so frequently referred to, by chemical writers, as peculiarly unfavourable to vegetation." "The magnesian lime acts more powerfully in destroying undecomposed vegetable matter than common lime, and its effects on land are more durable: hence it is in reality of greater value in agriculture, as a much smaller quantity will answer the same purpose."

Our great limestone valley, so noted for the unsurpassed fertility of its soil, overlays the magnesian limestone, and the soil is unquestionably composed of its elements almost exclusively, so that this fact alone should cause a doubt about the injurious effects of magnesian earth, unless it be found to exist in much larger proportions than seems to be the case in any of our ordinary limestones.

If lime was applied to the grass sod as a top-dressing, instead of being spread on the corn or wheat grounds, immediately before planting or sowing those crops, all the benefits would be derived from its application, and the evil produced occasionally by its causticity would be avoided.

If some correspondent of the Cabinet would make an accurate experiment with the two kinds of lime, putting the *same quantity* per acre, on land of the same quality and under the same circumstances, and furnish the result for publication, the question of comparative value would soon be determined.

Subjoined is a translation, from a French work, of an essay on the subject of magnesian lime, which is extracted from the Journal of the Franklin Institute. Z.

"On the influence of native magnesia in the germination, vegetation, and fructification of plants, by Angelo Abbene.

It has been thought that the presence of magnesia may be numbered among the various causes which render land sterile, because it has been remarked that magnesian soils have an arid character.

This opinion has begun to lose credit since Bergman, on examining the composition of fertile soils, considered magnesia as one of their principal constituents.

Professor Giobert has made many trials, to discover the parts which the native magnesia acts that is found in several arable lands.

In the vicinity of Castellamonte and Baldissero, this substance is abundantly diffused, in soils which are cultivated with great success, and on which a vigorous vegetation prevails. There are many localities in Piedmont and other places, where the double carbonate of lime and magnesia abounds in cultivated territories, which produce beautiful crops. Giobert has inferred from these experiments, 1st, that native carbonate of magnesia is not adverse to the fruition of plants; 2d, that in consequence of the solubility of magnesia in an excess of carbonic acid, the earth may exert an action analogous to lime; 3d, that a magnesian soil may become fertile when used with the needful quantity of manure employed.

The consequence which naturally flows from these facts is, that the magnesia has been dissolved in an excess of carbonic acid and water, and enters, like lime, into the composition of the sap, and ought to be found in the plant like potash, lime, oxide of iron, &c. This M. Abbene has assured himself of by the analysis of the ashes of plants which vegetated in magnesian mixtures. He has also tried, by comparative experiments, the question, whether the influence of magnesia in vegetation is analogous to that of lime. The conclusions which he thinks are deducible from these trials are:

1st. Native magnesia is not unfavourable to the germination, vegetation and fructification of plants, but appears favourable to these functions.

2d. Magnesia, being soluble in an excess of carbonic acid, exerts an action similar to lime, and when a soil contains magnesia not sufficiently carbonated, a remedy is found in the addition of manure, which, by its decomposition, furnishes the needful carbonic acid. The amelioration will be the more efficacious if the land be well stirred up, because the air will then better perform its office.

3d. When, in arable soils, both lime and magnesia exist, the first is absorbed in preference by plants, because it has a greater affinity for carbonic acid.

4th. In sterile magnesian soils, it is not to the magnesia that the sterility is to be attributed, but either to the cohesion of their parts, to the want of manure, clay, or other ingredients, to the great quantity of oxide of iron, &c.

5th. Sterile magnesian soils may be fertilized by means of calcareous substances, such as plaster, chalk, ashes, marl, &c., provided the other conditions are attended to."

Lime as a Top-Dressing.

In improving hilly land with a view to pasture, a much smaller quantity of lime has been found to produce permanent and highly beneficial effects when kept as much as possible near the surface, by being merely harrowed in with the seeds after a fallow or green crop, instead of being buried by the plough. As this is a matter of much importance to farmers of such land, the successful practice of one of the most eminent farmers in Britain cannot be too generally known.

"A few years after," says Mr. Dawson, "having a considerable extent of out-field land in fallow, which I wished to lime, previous to its being laid down to pasture, and finding that I could not obtain a sufficient quantity of lime for the whole in proper time, I was induced, from observing the effects of fine loam upon the surface of similar soil, even when covered with bent grass, to try a small quantity of lime on the surface of this fallow, instead of a larger quantity ploughed down in the usual manner. Accordingly, *in the autumn*, about twenty acres of it were well harrowed, and then about 56 bushels only of unslaked lime were, after being slaked, carefully spread upon each acre, and immediately well harrowed in. As many pieces of the lime, which had not been fully slaked at first, were gradually reduced to powder by the dews and moisture of the earth: to mix these with the soil, the land was again well harrowed after a few days. This land was sown with oats *in the spring*, with white and red clover and rye-grass, and well harrowed, without being ploughed again: the crop of oats was good, and the plants of grass sufficiently numerous and healthy, and they formed a very fine pasture, which continued good until ploughed, some years after, for grain.

About twelve years after, I took a lease of the hilly farm of Grubbet, many parts of which, though of an earthy mould tolerably deep, were too steep and elevated to be kept in tillage; and as these lands had been much exhausted by cropping, and were full of couch-grass, to destroy that and procure a covering of fine grass, I fallowed them, and laid on the same quantity of lime per acre, and well harrowed it in the autumn; then sowed oats and grass-seeds in the spring without ploughing, exactly as in the last mentioned experiment: the oats were a full crop, and the plants of grass abundant. Several of these fields have been now above thirty years in pasture, and are still producing white clover and other fine grasses; no bent or fog has yet appeared upon them. And it deserves *particular notice*, that more than *treble* the quantity of lime was laid upon fields adjoining, of a similar soil, but which being fitter for occasional tillage, upon them the lime was *ploughed in*; these fields were also sown with oats and grass-seeds; the latter throve well and gave a fine pasture the first year, but afterwards the bent grass spread so fast, that in three years there was more of it than of the finer grasses."

The conclusions which Mr. Dawson draws from his extensive practice in the use of lime and dung, deserve the attention of all cultivators of the soil.

"1. That animal dung, dropped upon coarse, benty pastures, produces but little or no improvement upon them; and that, even when sheep or cattle are confined to a small space, and, as in the case of folding, their dung ceases to produce any beneficial effect after a few years, whether the land is continued in pasture or brought under the plough.

2. That even when land of this description is well fallowed and dunged, *but not limed*, although the dung augments the produce of the subsequent crop of grain and of grass also, for two or three years, that thereafter its effects are no longer discernible, either upon the one or the other.

3. That when this land is limed, if the lime is kept upon the *surface of the soil*, or well mixed with it, and then laid down to pasture, the finer grasses continue in possession of the soil, even in elevated and exposed situations, for a great many years, to the exclusion of bent and fog: in the case of Grubbet-hills, it was observed that more than thirty years have now elapsed; and, besides this, the dung of the animals pastured upon such lands adds, every year, to their luxuriance and improves the quality of the pasture, and augments the productive powers of the soil when afterwards ploughed for grain; thus producing, upon a benty, outfield soil, effects similar to what are experienced when rich, infield lands have been long in pasture, and which are thereby more and more enriched.

4. That when a large quantity of lime is laid on such land and ploughed down deep, the same effects will not be produced, whether in respect to the permanent fineness of the pasture, its gradual amelioration by the dung of the animals depastured upon it, or its fertility, when afterwards in tillage: on the contrary, unless the *surface* is fully mixed with lime, the coarse grasses will, in a few years, regain possession of the soil, and the dung, thereafter deposited by cattle, will not enrich the land for subsequent tillage.

Lastly, It also appears, from what has been stated, that the four-shift husbandry is only proper for very rich land, or in situations where there is a full command of dung; that by far the greatest quantity of land in any country requires to be continued in grass two, three, four or more years, according to its natural poverty; that the objection made to this—that the coarse grasses will, in a few years, usurp the possession of the soil—must be owing to the *surface-soil* not being sufficiently mixed with lime, the lime having been covered too deep by the plough."—*Far. Mag.*

Remark.—Bent grass and the other coarse grasses are not found in limestone districts—to cover the *surface* with lime is to create a *calcareous soil*, upon which none but the plants indigenous to such soils will propagate themselves.

To the Editor of the Farmers' Cabinet.

Time of Cutting Timber.

Sir,—I find in the "American Farmer," some valuable observations, copied from the "Yankee Farmer," on the proper time of cutting timber, which will, I think, go far to decide the question; they are concise but decisive, and as the subject is of the first importance to agriculturists generally, for I believe the chief fencing will still, in this country, be constructed of wood, and for many years to come—to wait for seven or eight years for the growth of live fences, strangely enough called *quicks*, being so very operose to the genius of the American people—I would, therefore, call the attention of your readers to the subject; having myself had opportunity of verifying the justness of the conclusions to which the writer is brought, I can, with the greater confidence, commend them to general notice. John Daley.

"It is a fact, well known to almost every farmer who uses poles for fencing, that timber cut in the spring or early part of summer, and exposed to the weather *with the bark on*, decays much sooner than that cut *in the fall:* the reason is evident, for when vegetation is active, the bark and outer part of the wood is full of sap, and a new layer or cone is forming between the wood and the bark, from the *returning sap*, after undergoing a change in the leaves; and this moisture causes the rapid decay of timber exposed to the weather *with the bark on*, so that the timber will never become seasoned, but soon go to decay—to *powder-post*.

From this tendency of timber to decay, and which is often observed, many persons have supposed that the spring and summer are unfavourable seasons for cutting timber for all purposes; but experiments, many of which have been laid before the public, show most conclusively, that the best season for cutting timber is the first of the summer, when the bark peels freely, provided it is so prepared and used, that it will become thoroughly seasoned.

We are informed, by a carpenter, one who makes and uses plane-stocks, that timber which is cut the first part of June is harder, heavier, and more durable than that cut at any other season, and this he has learned from actual experiment: and a gentleman who has been considerably concerned in ship-building, says that timber cut in June is far more durable than that cut at other seasons, as he has learned, from using the same kinds of timber, cut at different seasons of the year, in the same ship. By experiments made by Mons. Buffon, it is found that trees which are stripped of their bark in May or June, while standing, and then cut down the next winter for timber,* are found to make the most solid, heavy and strong timber, and that then, even the sap of the timber (the alburnum) is good for use; and the bark stripped at that season is fit for the purpose of tanning."

To the Editor of the Farmers' Cabinet.

Wheat-Sowing.

Sir,—In the Cabinet, p. 50, vol. 5, I find it recommended to delay sowing wheat on fresh-ploughed land, until after it has been settled by rain and become sufficiently dry to work well under the harrows; and, I confess, there appeared to me to be truth in the reasoning which accompanied it; but, on taking up the Ohio Observer for the 21st of May, I find an article on the same subject, which goes *point blank* against the theory there raised, and leaves me at a loss to know how to decide. Permit me to copy that article, and request some of your readers to put this and that together, and give us the result of their conclusions.

"Land should not be ploughed until it will fall and crumble lightly, and should be planted as soon as possible after being stirred, for the action of the air is to produce fermentation, which is wanted to warm the seed and cause it to germinate. If planting is delayed long after ploughing, the fermentation has ceased or greatly abated, and the plants will be more tardy in coming forth, and will possess less vigour. We repeat—don't plough too soon: wait patiently until the soil is in proper condition, and then plant as soon after ploughing and harrowing as possible; land should not be ploughed until planting-time."

J. E.

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* I much question the utility of this tedious process: I have always found it sufficient to cut and strip immediately.

For the Farmers' Cabinet.

Old Times in Medicine.

The readers of the Cabinet are much indebted to the sensible writer over the signature T.,* for his rational, common-sense mode of treating a subject which has too long been held as the exclusive and hereditary property of the scientific and college-taught physician, to whom we have been accustomed to look with a sort of reverential awe, on account of the sacredness and mystery of the profession. He is deserving of the thanks of the community, but especially of the farmer, that neglected and too often despised member of society, who is, by many, considered but little better than the soil which he cultivates. These very interesting papers show us that much improvement has been made in the science of medicine, even within the last few years; but it will be necessary for us to go back to the superlatively ridiculous nostrums which are contained in the *old books* on this subject, before we can be made to believe that any thing half so absurd and revolting could ever have entered into the head of any rational being, as the innumerable and disgusting cures for disorders that are there recorded with perfect gravity.

A writer in the Medical Review observes, "The time has passed away, when oil from kittens boiled alive was considered an admirable application for wounds; when toads roasted alive were administered for asthma, and the hair of mad dogs for hydrophobia; when the powdered thigh-bone of an executed felon was considered a specific in dysentery, and ointment was applied to the inflicting *weapon*, in order to cure the wound! when physicians placed confidence in phylacteries, and watched, with intense anxiety, the influence of black and white days, and the aspects of the stars, and when they hurried their unfortunate patients to an untimely grave, in attempting to quench the fires of fever and inflammation, by diligently feeding the consuming flame."

A few more—amongst many hundreds of the same kind—are selected from an old French work, entitled the "Country Farm," translated into English by R. S., and published by Gervase Markham in 1616—with the view of showing the happiness which we enjoy under that system of light and reason, which is so well and ably advocated by your valuable correspondent T.

"For epilepsy. Take the powder of a man's skull—especially of that part which is nearest the crown—in neat wine as a drink, hanging also about his neck a piece of the skull, and upon his finger a ring, set with the bone of the foot of the ox.

For king's-evil or leprosy. Cut off the foot of a great toad when the moon is declining, and apply it about his neck which hath the king's-evil, and you will find it very sovereign for the said disease.

For inflammation of the eye. A wolf's eye, or the stones that are found in the maws of swallows, have great virtue, if hanged about the neck.

For a weeping eye. The distilled water of the gall of a man, dropped into the eye.

For white spots in the eye. Eggs, laid the same day by *black hens*, roasted and cut up, and mixed with sugar-candy.

To stay bleeding at the nose. Make necklaces of the herb *Saint* Innocent, and hold in the hand a branch of the *holy* oak, snuffing up the powder of a three-cornered stone found in the head of a carp.

For the tooth-ache. Wear about the neck the tooth of a man, knit within a piece of taffeta: this taketh away the most strong pain of the teeth that may be endured.

For a hollow tooth. Put into the hole the ashes of earth-worms, *or* the dung of mice, *or* of the tooth of a hart, *or* the brains of a partridge, *or* the juice of water-cresses!

For the quinsy. Take a whole swallow's nest, boil it in wine, and with the oil of camomile make a cataplasm for the throat: or drink the weight of a French-crown of the tooth of a wild-boar powdered.

Jaundice. Drink, fasting, the dung of *ganders* (not geese) well mixed with white wine, for the space of nine days; or carry in the *left* hand *three* leaves of the wild rocket.

For the cholic. There is nothing more sovereign than to wear about him a ring or box of silver, in which is enclosed some part of the skin of an infant newly born; or the heart of a lark swallowed down while it is fresh and new, or the said heart fastened to some part of the body where it might touch the skin; or a cataplasm of wolf's dung, or the same drunk with a little wine.

The flux. The powder of men's bones, to be taken in milk three times a day.

For ulcers. The dew, in the month of May, gathered before sunrise; or a powder of the dung of a dog that has been fed for three days on bones; or *the powder of a rotten post!*

For the spitting of blood. Fry the dung of a hog with fresh butter, and of that clotted blood which the sick party shall have spat up, and so give of these, thus fried together, to the sick party to eat!"

Now all this is monstrous—it is frightful, and we cannot be sufficiently thankful that we live in an age when such men as your correspondent T. devote their time and talents to simplify a science which, even up to this time, has been held, by many, too sacred and

* Page 76 of Cabinet for September.

mysterious to be examined into, or even to be *thought* upon, by those who might find it necessary to apply for relief to the physician; considering themselves as having then abandoned their right of *thought, word* or *deed!* I say, we cannot be too thankful that the time is come, when the regularly bred practitioner throws aside, thus willingly, the prerogative with which, by consent of society at large, he has been clothed, and thus exhibits the theory and practice of medicine in all its simplicity and reasonableness.

But, are we sure that *old times in medicine* are quite passed away? Judging from many sovereign remedies for the cure of diseases in cattle, which are now going the rounds of the agricultural papers, I suspect that ignorance still lingers; and, to such men as T., the reflection will be mournful, that the light of truth and reason is still obscured by its baneful influence. I cannot resist the opportunity, in conclusion, of mentioning two or three *grand specifics*, which are in high repute at the present time, and which are deserving a record in the "Country Farm."

MODERN PRACTICE.

"For the staggers in hogs. Pour into their nostrils a strong decoction of red pepper and spirits of turpentine, repeating it several times a day; cut off their ears close to the head, and fill up the holes, three times a day, with the same mixture, or any other that is very irritating, and bleed on the nose on each side! The writer observes, he has heard that to bleed freely, in addition, by cutting round the throat, has been attended with success.

For the same disorder in horses, the same treatment.

For sickness in hogs. Split them down the back to the depth of three-quarters of an inch, fill the place with salt and stitch it up—they will be brisk and lively next morning!

For the botts in horses. Bleed, to the amount of about three quarts, and while the blood is warm, and before it be coagulated, drench the horse with it.

To cure the internal complaints of a horse. Kill a fowl and pull out the inside whole, and while it is warm, poke it down the horse's throat with a corn-cob! and if that won't do, *try something else!*"

P. S. The concluding sentence in T.'s first article, in the number of the Cabinet for August, page 22, ought to have been printed in letters of gold. *Treat your brutes like men.*

In the same manner that plenty is the recompense of assiduous and laborious toil, so peace and serenity of mind are the reward of virtuous conduct.

To the Editor of the Farmers' Cabinet.

Lucerne.

Sir,—You have given us, according to promise, your correspondent John Beeker's communication, relating to his failures in the attempt to raise a crop of Lucerne. I have written to a friend at Baltimore, requesting him to inform me of the success attending the crop in that neighbourhood, which was noticed in the American Farmer some months ago, and, until that information arrives, I would just say to Mr. Beeker, I believe that most of his failures have arisen from the unsuitableness of his soil, and I regret that he did not inform us what is the nature of the subsoil; I suspect it is wet at the depth of a few feet from the surface, judging from the fate of the two pieces which he sowed last spring, for he says—after telling us they came up finely and grew well for some time—"they began to get red and yellow at the tops and died away;" these being just the symptoms of an unsuitable soil.

But why, in the name of common sense, after clearing away a garden which had a good rich soil, and putting it in good order, did he sow "some timothy along with it!" Was he afraid that at last he was going to succeed, and, therefore, took a very sure course to prevent it? for, if this had really been his wish, he could not have adopted a better mode of rendering abortive all his attempts—surely not—and there never has been any account of that crop published in this country, without the necessity to clear away the weeds of every description, both before and after the sowing of the seed, being reiterated and plainly insisted upon! And it is remarkable that the Lucerne grew again during the summer, after he had been compelled to mow it to keep the weeds down! Now if he had at that time turned to and pulled them clean out by hand, I have no doubt he would have secured his crop; but after this, he might have saved us the trouble of telling us, that in the spring following "not a stem or stalk of it was to be seen." As he does not say the tops had changed colour, I presume it was not injured by a poisonous subsoil, but only required to be weeded to secure a crop; a circumstance that he must now, I think, regret. But, after having lost about fifteen dollars' worth of seed in this way, I suppose it was time for him to have "done with it."

Now, I know not that anything can be added to this account to make it more self-evident, that these failures arose, first, from the unsuitableness of the soil, and second, from the neglect of cleaning and exhausting the land of weeds, *before* the seed was sown, as well as *after* the crop had come up, but

thirdly and principally, in the last-mentioned case, of the unaccountably strange notion of mixing timothy with it! The necessity for keeping the crop free from weeds while growing, seems entirely to have been lost sight of from the beginning, for how was this to be done after timothy had been mixed with it! But, as you properly observe, the detail of a failure in an experiment might be made interesting and profitable even to him who has been "exercised thereby," and friend Beeker may derive consolation from the fact, that every one must see, as clearly as he himself now must, that his want of success was no more than what ought to have been foreseen and expected: if he will make another trial upon a suitable soil, thoroughly cleaned before sowing the seed, not permitting a weed to remain amongst his crop while growing for the first year — refraining, of course, from "sowing timothy with it"—there will be no danger of disappointment.

There never has been the least difference of opinion with regard to the great yield of this crop when it succeeds, or the value of it for the feeding of stock—all accounts agree in this—and it might be expected that in this hot and dry climate, the yield, on suitable soils, would be enormous; but in the quick growth of the weeds, it would have a giant foe to contend with; and without the greatest care and attention, it will never be made to succeed; when once well planted, however, it will pay and repay, for all the expense that might have been bestowed upon it, and of this there need be no question: as soiling-food for hogs, it is invaluable, as they do not reject any part after mastication, but swallow the whole. It is invaluable as hay, and is not liable to be over-heated in the mow.

From what I have seen of the country about Trenton, New Jersey, and especially about Morrisville, on the opposite shore, I should expect there could be no earthly cause to doubt the most perfect success in raising crops of Lucerne of large extent; I understand that there the springs are not within twenty feet of the surface, and the surface-soil appears peculiarly adapted to the cultivation. If some of the friends of the Cabinet, who reside in that part of the country, would make the trial, I should expect very different results, from the care and skill that would, I know, be bestowed upon it.

In conclusion, I would recommend to the notice of your correspondent, an excellent paper, "on the tap-roots of plants," at page 68 of the same number of the Cabinet.

D.

P. S. I would refer him, also, to what has already appeared in the pages of the Cabinet on the subject of smut in wheat: to me the *cause* is about as clear as the *effect*.

To the Editor of the Farmers' Cabinet.

Fine Stock.

Sir,—Under the caption of "Great Calves" I noticed an article in the July number of the Cultivator, published at Albany, N. Y., giving the ages and weights of four animals, selected from different points of that state, as superior specimens of the "short horns," and as going far to show the superiority of that breed. They are, indeed, fine specimens, compared with our native and many other breeds of cattle—but the editor rightly observes, "we do not say the best, because we might be obliged to recall it." Being myself an agriculturist, and for a few years past engaged in the effort to improve the stock of our county, I consequently feel a deep and lively interest in any effort calculated to extend this long neglected, but now growing interest. Agriculture, in all its departments, is a theme upon which I love to dwell, and it is only to be lamented that so few in this region of country, avail themselves of the immense advantages to be derived from the experience of others, in the way of agricultural periodicals. These prejudices are, however, giving way, and we look forward to a new era in the history of our operations.

I have taken the liberty to ask for a place in your valuable periodical, as a competitor, among others who have obtained some distinction in the rearing of fine stock—by presenting you with the annexed statement of nine calves, with their names, ages and weights, the offspring of a part of my imported, full-bred short-horn stock, selected from the fold of Mr. Whitaker, extensively known in this country. These calves are all sired by my imported bull "Colossus;" admitted to be one of the best stock bulls that has been imported into this county. These calves were weighed upon Fairbank's patent scales, in the presence of a number of gentlemen of respectability, who all unite in pronouncing them the finest specimens of their kind. And, when taken together, as being centred upon one farm, they will at least compare with the like number in any other section of the Union. It would afford me much pleasure to be able to furnish you with a drawing of one or two of them.

Lady Franklin, at	19	days	old	250 lbs.
Napoleon,	21	do.		262 lbs.
Flora,	9	weeks		361 lbs.
Belina,	3	months		460 lbs.
Dahlia,	11	do.		880 lbs.
Franklin Comet,	10	do.	11 days	936 lbs.
A Calf, at one hour old				115 lbs.
Do. do.	do.			125 lbs.
Do. do.	do.			120 lbs.

Wm. Heyser.

Springdale, near Chambersburg, Sept. 3, 1840.

N. B. It would be gratifying to me if the editor of the Cultivator would give the names, ages and weights a place in his paper.

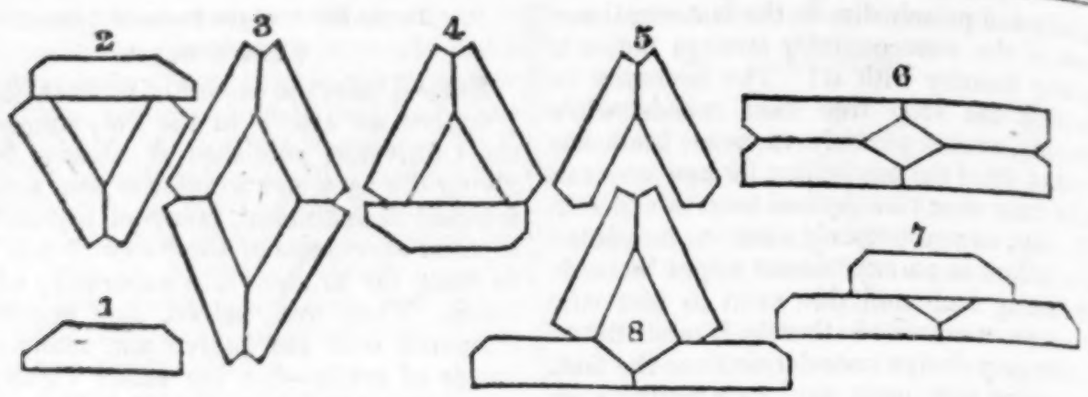

Fig. 1.—Draining brick, 10½ inches long, 7 wide, 2 thick.
" 2.—84 bricks for 8 yards of drain.
" 3.—110 for 8 yards, for main drains.
" 4.—As fig. 2, 84 bricks for 8 yards of drain.
" 5.—55 for 8 yards of drain.
" 6.—110 for 8 yards, for soft, boggy lands and quicksands.
" 7.—84 for 8 yards, for boggy lands.
" 8.—110 for 8 yards.

Drains for these bricks are dug cheaper than they are for common bricks, particularly for figs. 2 and 3.

For the Farmers' Cabinet.

Draining.

This is the season for draining, and nothing else can pay so well the expense of the labour bestowed; the most useless, the most unsightly, nay, some of the most unhealthy bogs in the country might be made, by this single operation, the most valuable, the most beautiful, and the most luxuriant spots upon the whole farm; for in many cases they have been fed and enriched for ages by the washings of the uplands, until they are become a mass of vegetable matter, requiring no further manure for a century: these lands are often reclaimed at a much less expense than are uplands, impoverished by over-cropping, and by a process very simple, and oftentimes by no means expensive, for where small stones abound on the surface of the land, they might be gathered for filling the drains, when the benefit will be far greater than the expense incurred. In laying off the drains, it is necessary to seek for an outlet, and there commence operations, at the lowest point of the land, working up hill, and giving the drains but a small declivity; they will work much better than those of greater rapidity of descent, as they are operated upon by *capillary attraction*, and are then not so liable to be choaked by gravel, &c., that might be washed down by a quick current. There are, however, large tracts of country in which stone, for the purpose of filling the drains, cannot be obtained, and this is particularly the case in some parts of the counties of Kent and Essex, in England, where, however, under-draining has been carried on to a vast extent; it is there the practice to make bricks of the clay which is dug, and burn them on the spot or near it, and, with these, to lay their drains, a material far preferable to any that can otherwise there be obtained, and oftentimes procured at a less expense than any other, suitable for permanent work; by means of these bricks, drains of great capacity are formed, which cannot by possibility choak, and are found to run now, as freely as they did a century ago.

A person by the name of Ashwell has invented and patented a brick, which is highly approved of for the purpose, and of which we give an engraving at the head of this article. It will be seen that they form different figures by being placed in different positions, and they are, therefore, placed in the drains, so as to take that figure, best calculated for drawing off the water; the same bricks forming the main as well as the lateral drains, and being laid with such facility, constitute some of the great advantages to be derived from their use.

Under-draining is the foundation of all agricultural improvement, but it is not often practised by persons having a yearly interest *only* in the soil; hence, it is but little known in this country, where so many of our farmers —as some one says—are expecting to remove to the west *year after next.* In many countries, it is customary for the owner of the land and the tenant to share the expense, even under a long lease, the improvement being considered as perpetual; and it is always most economical to do it substantially when it *is* done, for without the greatest care, the whole expense and time is labour lost: but oftentimes the tenant for seven years has found the practice profitable, and on some of the deep meadows in England, drains have been cut, the width of six inches only, to the

depth of two feet and more, and these have been filled to near the surface, with brush-wood, cut from willows and other aquatic trees, and have been found to run and answer the purpose as well as the most expensively constructed drains for that time, and sometimes even longer. Another mode, which has long been practised in England, and for the facility and cheapness with which it might be adopted in this country, is recommended in those situations where it would be suitable, is, first to commence the drain by taking off a strong turf, twelve inches in width and three or four inches in thickness, laying each carefully, sod-downwards, on one side; and, after digging the trench a full spade more in depth, and cleaning out the bottom, then, with a narrow spade, cut another depth in the bottom of this drain, and just in the middle, leaving a shoulder about three inches in width on each side, and upon these, place the turfs, sod-downwards, so deep as to be out of the reach of future tillage, filling in the earth which had been thrown out. These are called shoulder-drains, and they may last a long time in suitable soils and situations, when carefully executed, but they are, like many other cheap modes of doing things, not always to be depended upon.

When land lies very low, and without an out-fall for the water, the best way to take it off is by well-constructed drains, perforated in the bottom with the augur until the *pervious* sub-stratum is struck, and if plenty of these holes are bored before filling in with stone or brick, the water will be as effectually taken off as it can be by any other means whatever; and upon these occasions it is that the infinite value of draining is seen, felt, and understood, the finest water-meadows having been constructed upon this plan of under-draining, and the health of a whole neighbourhood permanently secured.

All lands, after draining, should be heavily limed, whether they are designed to lay in grass or become arable, for here the lime acts in its proper character, neutralizing the acidity of the soil and destroying all *aquatic* herbage of every description—the natural growth of all wet land—and inducing and encouraging the growth of those that are indigenous to a limestone soil, amongst which white clover always predominates—and there is no fear of an over-dose, provided the lime be pure. C. B.

It has often been remarked, that the great fault of American farmers lies in the eager desire to add field to field, which often impoverishes them, keeps them in debt, and renders them unable to bring *any part* of their land into the highest and most profitable state of cultivation.

To the Editor of the Farmers' Cabinet.

Lightning Rods.

Respected Friend,—In thy letter, thee wishes me to give some account of the manner in which our conducting-rod is fixed, down which the lightning passed, killing two cows which were lying about twenty-five feet distant from its foot.*

It is not quite clear to me that the electric fluid passed to the cows at all; possibly they were killed by the shock only, for I believe that such instances have been known; and yet, from the appearance of the wall, the electric fluid must have passed through it in the direction of the cows, although no traces of it could be found upon their dead bodies: that it was, in some way, the effect of the *stroke*, however, there can be no doubt, for they were both acted upon in precisely the same manner.

There are two rods to the barn, one at each end, extending about five feet above the comb of the building, which is about sixty-four feet in length: they penetrate three or four feet into the ground, at an angle of 45° with the wall of the building, and are imbedded in charcoal; being $\frac{5}{8}$ of an inch in diameter, with platina points. That the charge was most powerful there can be no doubt, the report being tremendous, and the *melting* of the brass by which the platina point was fixed, which was, I presume, the fact, as no trace of the point was afterwards to be found—this, however, is conjecture only, possibly the point was *thrown off* by the shock.

But, while a part of the electric fluid left the rod and passed to the cows, it was evident that another part followed the rod into the ground, penetrating it and leaving a hole about it, and throwing up the earth for several feet around. Now, why any part of the fluid should leave the rod, which is a *good* conductor, to pass off by a stone wall, which is a *bad* conductor, perforating several holes through its whole thickness of two feet, between the stones, carrying away the plaster in its way around the foot of it, for many yards in length, before it could reach the cows, is to me unaccountable. As the case stands, however, the rod fulfilled its purpose, in conducting the fluid from the over-charged cloud to the negatively-charged earth, without danger to the building. I think that one rod, extending a few feet higher, in the *middle* of the building, would be a better security than one at each end: Dr. Franklin says, there has been no instance—and, in fact, I have never heard of any—of a building being struck, which had a good conducting-rod extending six or seven feet above the highest part of the building, and communicating with

* See the Cabinet for June, page 349.

the ground; he recommends extending the rod under the ground to moist earth: and I suppose that one rod of this description would answer for a building of ordinary length—say from forty to sixty feet in extent.

We have just finished sowing ten bushels of Mediterranean wheat, which we procured of our neighbour Jabez Jenkins. I would like to know the reason why this kind of wheat, growing in the same climate and soil and circumstances as other wheats, is not acted upon by the fly as they; for this and other reasons, I am not as yet prepared to admit the doctrine in relation to the fly, as expressed in the number of the Cabinet for August. I remain thy friend,

N. J. Sharpless.

Downingtown, 9th mo. 15, 1840.

To the Editor of the Farmers' Cabinet.

Farm Gardens.

Sir,—I accept your invitation to give a description of my farm-garden, for publication in the pages of the Cabinet, and add a few remarks, which might prove of some value to those who, like myself, have but little time to devote to the elegancies of life. I have experienced the total incompatibility of a large and well-appointed garden with the every-day labours of a farm, and have witnessed in myself, as well as my neighbours, how often it happens, that at particular seasons of the year, the interests, either of the one or the other, are sure to suffer for want of timely attention to due management.

You may remember, when I came to the farm of Ellis's, that the garden was in front of the house; and, seeing it in the very weedy state in which it then was, and had, indeed, ever been, I came to the conclusion, that unless it could be kept clean, the better situation of the *common* garden would be in the rear of the premises: I therefore reduced it to about one-fourth of the size, surrounded it with neat paling, and made a border of rich mould four feet wide under the fence, and a walk of gravel of the same width, laying down the inner square to grass, to be kept closely mown, as a drying-ground; and having planted the border with flowers of many varieties, not forgetting the sweet-scented herbs, I put a lock on the gate, and gave the key to the women-folks, and not a weed has, since that time, dared to show its head with impunity; while I, in return for this care and attention, feel pleasure in mowing the plot about every two weeks, and rolling it with a heavy stone roller—a labour of about half an hour only—and now the place is always fit to be seen; the little arbour at the upper end of the garden is covered with roses and honeysuckles, affording a delightful view of the river, and a lovely retreat of an afternoon or evening, for self and friend, or book.

You may also remember, that the whole space behind the house was occupied as a large harum-scarum wood-yard, with patches of grass and weeds, so high as often to render a search necessary, to ascertain if any more wood remained in the pile! I enclosed an acre of this wilderness with a strong fence, to serve as a common garden, the piece measuring 70 yards long and 70 yards wide, and placed in the fence, exactly opposite the back entrance of the house, a stout gate, which will fall and fasten of itself; and on that too is a lock, with a piece of chain attached to it and fastened to the post, so that it never can be mislaid or lost. This was accomplished in the autumn, and as soon as finished, I spread the whole of the land with long dung, put the plough into it as deep as it would go, limed the turned surface and well harrowed it, and so left it lie the whole winter. In the spring, therefore, I had only to carry well-rotted dung upon it, turn it in with a rather shallow furrow, so as not to disturb the turf and weeds at the bottom, and sow my seeds and plant my crops in drills, devoting to each a proper number of rows, extending the whole length of the piece, being careful that the dwarf kinds are not placed between rows of tall-growing plants, by which they would be overshadowed. There are no pathways allowed on the piece, as communication to each crop is afforded by the ends, or headlands, upon which the plough turns during cultivation; by this arrangement, much space is saved.

The garden adjoins the cattle-yard, and when any of the crops become too old for the use of the household, they are pulled and thrown to the cattle and hogs, and other crops are planted in succession, without loss of time, a sprinkling of dung being allowed for each if possible. Here I plant my first and early crops of potatoes, which come off in time for turnips of the early species, while my early peas are always succeeded by a full crop of potatoes, of the early kinds also.

I have found this arrangement convenient and beneficial: in very pressing times upon the farm, the *garden* is made to wait for more leisure, but as the *weeds* will not do this, it is not always—it must be confessed—that the crops are as clean as they ought to be, but the weeds are more out of sight at the back of the house, and do not stare you in the face, as they would do in front of the dwelling. The rows, extending from one end of the piece to the other, give great facility for cleaning them, in the easiest manner imaginable, by the plough, horse-hoe and cultivator, and thus the garden is soon put to rights: and I am convinced it is not one quar-

ter the labour to keep it so, by such an arrangement, as would be necessary in the customary way of planting crops in square compartments or beds, intermingled as usual, with trees and flowers, requiring the incessant use of the spade and hand-hoe.

I should be pleased to see such a plan generally adopted on our farms; there can be no pleasure in a weedy or dirty garden, but, in the hurry of the seasons, such must sometimes happen to be the case, or the more important duties of the main dependance must be neglected: many of the crops, in such a garden, may be put in and taken out by the plough, and be cleaned by means of the cultivator, with one quarter the labour generally bestowed, and this consideration is of great moment, as well as the saving of time. The plan admits of a rotation of crops easy of adoption, and with which nothing can interfere, provided it be well arranged at first: it will be seen, however, that it does not admit of trees being planted on the land, as they would prevent the free use of the plough.

And now, let me say a word in favour of a large garden, even upon a small farm: if the experiment were to be made, it would surprise any one to see how much the consumption of meat in a family could be reduced, to the manifest advantage and comfort of all, by the substitution of large quantities of vegetables of different varieties; and I would recommend, that at all times a greater quantity of these should be cooked than are expected to be eaten by the family; this, and a great variety, would be an inducement to their expenditure, if they were well prepared; and every fragment that remains should be gathered up, and fed to the poultry, with the water also in which they have been boiled with the meat; all this, if well mashed up and mixed with meal, will afford excellent food for poultry of all kinds, and is by far the best means of affording plenty of eggs the year through, after all that has been said and done upon that subject.

A calendar of work to be performed every month in the year in such a garden, would take but little space in the pages of the Cabinet; and if a few remarks at the commencement were to be added, pointing out the benefits and advantages to be derived from a more plentiful use of vegetables, and a less consumption of salted meats in this hot and dry climate, the result would, no doubt, be happy, and very much tend to the preservation of the health of the agricultural community in general. K.

N. B. It would be an excellent plan for the farmer to devote an hour or so to the garden before breakfast in the morning; then, if all hands turn to heartily, much labour could be performed in a very short time.

For the Farmers' Cabinet.

Fly in Wheat.

Mr. Editor,—I have received several numbers of the Farmers' Cabinet, forwarded from your office, which favour I think it right to acknowledge and to request that the succeeding copies may be sent on, as it appears calculated to be useful to farmers, though I think the pieces are too short and not sufficiently conclusive or confident in their character to induce full faith for extensive experiment. Please say at what particular time, and in what manner "the bushel of lime to the acre" should be put on wheat, to prevent injury by the fly? *We* have sustained much injury in this section of the country from its ravages the last season. I have, however, little confidence in the efficiency of lime, or of spring grazing, in preventing its progress, as I have discovered this season that the eggs are deposited at different times, and in almost all the different joints of the stalk; *three* different times were distinctly marked, or at three different growths of the plant, the last of which is in the head or ear; consequently it appears that the insect was abundantly busy during the whole time the wheat was growing! Those deposited in the first joint (where it has been heretofore commonly looked for) caused the wheat either to fail altogether or to fall by the weight of the stalk; those in the third, or about the place we cut it off, was filled, in some instances, to bursting; as many as fifty-four were counted in one joint, and in several others a small yellow worm was found hatched out among them; while those in the last bud had completely enveloped the ear, to the entire prevention of the seed; the stalk appeared wounded, and the plant died, just as the ear was bursting from under the last blade; they have been found since in the mows and stubble-fields: upon all which, please *enquire*, *reason*, and *philosophise;* and if there can be any adequate remedy devised, it would be of the last importance that wheat-growers should be apprised of it. O.

In commercial pursuits, a really great national advantage may prove a really great national evil, for its effects might be to introduce a taste for luxury, an inordinate love of money, debasing to generous sentiment, and familiarising the mind to chicanery and fraud.

"I would sooner undertake to educate a dozen children than attempt to communicate my principles to a single grown person: good seed can never make any progress until the weeds are all extirpated."

Philadelphia Agricultural Exhibition.

We regret the impossibility of being able to give more than the merest outline of the grand picture displayed at the Rising Sun, of the Philadelphia Agricultural Society's Exhibition of Stock and Implements. It seemed *a conspiracy to outvie*, and it remains undecided, who takes the premium, whether *nature* or her *works*; for assuredly, a more glorious sun never shone upon a more interesting gathering of good-looking men and animals: we left as that orb was retiring; and on giving in his report, as recording secretary, at the bar of accounts, we know not that he had to register a single instance of intemperance, insubordination, or unkind feeling—all was just as it should be. The arrangements for the accommodation of the very numerous stock and implements were excellent, and great praise is due to the Committee for their attention to this particular.

The display of stock was grand; and we were led to ask—When will the Breeders in this country consider themselves competent to go alone, without farther aid from abroad? In our opinion, many of the exhibited animals would find their best market in England.

But not only was the eye feasted with the sight of so many fat things, and the heart gladdened by the contemplation of such perfect good will and happiness;—the *mind* also came in for a large share of the banquet, enjoying, through the *ear*, a treat of no common order,—an address, delivered to the numerous and highly respectable assembly, by the excellent and amiable President of the Society, Nicholas Biddle, Esq.; and as he has honoured us with making the 'Cabinet' the depository of his interesting and valuable notes, we proceed, without farther loss of time, to lay them before our readers.

October 8, 1840.

Gentlemen—

We are assembled to witness our first exhibition since the recent donation by the State. Our Society, while engaged with all its own resources in improving our agriculture, appealed to the Legislature, as consisting mainly of farmers, and asked, that while so many millions were expended in the transportation of our productions, something should be given to assist in rendering those productions themselves more abundant and more valuable. Accordingly a law was passed, placing, every year, at the disposal of the Society, a sum of Fifty Dollars for each member of the Legislature from the city and county of Philadelphia, to be paid out of the taxes raised within the city and county. This, though small in amount, is important from its example; nor in entering upon the first enjoyment of it, should we omit our thanks to the Legislature for this mark of regard for the farming interest, to the members from the city and county who liberally supported it, and more especially to those members of this Society to whose exertions we owe the success of this application—among whom it would be great injustice not to name George W. Roberts, R. T. Potts, and Captain Thomas Hayes—but in an especial manner are the acknowledgments of all farmers due to Mr. James Gowen, who is always in the front rank where public spirit or private liberality is needed.

The Society have thought that no employment of the additional means confided to them, would be so useful as to bring the farmers together, to exhibit the best specimens of their industry; and by small but honourable premiums to encourage a generous competition in every branch of farming productions. The prizes for the best crops must be decided at a later part of the season. But the exhibition of farming stock, and farming implements, is now before you; and it is made my duty to add something appropriate to the occasion. This I do cheerfully—and what I shall say will be very plain, very practical, and, as you will learn with pleasure, very short. My purpose is to say a few words about the real condition of farming in Pennsylvania—its natural advantages—its acquired means—and then suggest such improvements as may make our farms more productive.

There are perhaps few portions of the earth more favoured by nature than Pennsylvania. Her soil is excellent and various—while even the parts least adapted in themselves for agriculture, furnish the best encouragement to it; for the hills which reject the plough, are filled with coal and iron, which collect large masses of people to be fed by the farmers. Her climate is a happy medium between the long winters of northern regions, which close the earth for so many months against farm labour, and consume so much of its produce in carrying the farm stock over long months of idleness, and, on the other side, the unvarying heat of southern latitudes, often unhealthy and unproductive, where both man and cattle degenerate. In this climate almost every production may be naturalized, so that in point of soil and seasons, and variety of productiveness, Pennsylvania is distinguished.

These natural advantages she has also the means of improving by artificial means; for the limestone, so great an element in farming, is found everywhere, in the greatest abundance: Plaster of Paris is obtained easily, and at low prices, from her neighbour, New York: the large cities furnish vast supplies of animal manures; while, on the other side of the Delaware, lies a great belt of green sand, erroneously called marl, an original deposit of the ocean, where, among bones of extinguished races of animals, and relics of a submerged world, there is brought up this sand, highly useful even in its natural state, and, if mixed with lime as it should be, of great efficacy.

The implements of husbandry come next in order, and these we have of the very best kind, much better than similar implements in Europe—lighter—more easily handled—and there are one or two in common use with us, such for instance as the horse-rake, and that giant instrument the cradle, which are unknown or unused abroad. In truth, our people have had so much to do with comparatively small means, that their ingenuity has been tasked to invent the most efficient instruments, and to make the most active use of them. Thus there are two words in almost all languages, and well defined in most dictionaries, but of which Europeans have scarcely an idea, and these are the axe and the plough. To cut down a tree, the great business of American settlers, is a strange event to a European farmer. And then it may make us smile to see, as we may on the continent of Europe, at the present time, a whole drove of horses—I have myself actually seen eight in a single plough—and sometimes the whole quadruped force of the farm, three or four cows, and perhaps a bull or two, with the aid of several horses, toiling slowly through the great work of turning up the sod—nay, even in some parts of England, at this moment, may be seen six large horses, with two full-grown men, returning from the field after having ploughed, during the day, three-quarters of an acre—where one of our ploughmen, with a pair of horses, would have got through an acre or an acre and a half.

From the implements let us turn to our stock of animals.

And first of our horses:

Beginning with the highest blooded stock, I think it probable that the United States possess quite as good a race as there is in Europe. The prevailing opinion is, that the Arabian Horse is the original of that animal. I doubt the historical fact—but if it be so, he is the parent stock of the horse, just as the father of all apples is the Crab, which has been sweetened by cultivation into the Bell-flower. Undoubtedly the Arabian has improved the English Horse—has given him finer sinews, more compact bones, and greater intelligence, till the cross has become avowedly the first of his kind. The truth is that a race is but a quick succession of long jumps, and the little light Arab is out-jumped by the gigantic stride of the stronger, larger, longer-legged English Horse, who has beaten him on his own sands in the East, and would distance him on any course in Europe. Indeed, the very first Arabian imported into England two centuries ago, called the Markham Arabian, was constantly beaten; and my impression is, that no Arabian horse ever did win a race in England. The belief of our breeders is, that whatever good there may be in the Arabian is exceedingly slow in showing itself; that he has already given to the

English horse all he can give, and that it is on the whole safer to adhere to the highest bred English stock, rather than risk its degeneracy by any inferior mixture. Our blood horses, therefore, come directly from England; and it is rather odd that the King of England's stables, while there was a king and he had stables, furnished the highest priced horses for republican America. Of the comparative estimation of the English and Arabian Horse we have lately seen a striking example. The Imaum of Muscat sent to the President of the United States two Arabian Horses which, from the character of the giver, we are bound to presume were of the highest class. These horses were sold at public auction, and no one could be found to give more for them than six hundred and fifty dollars for one, and six hundred and seventy-five for the other. Now, in the same neighbourhood where these were sold, are very spirited breeders, who would not buy these Arabians at even so low a rate, but who had actually bought from the stables of the King of England, at the price of twenty-five thousand dollars, a favourite horse, Priam, one of whose colts is in the exhibition here. Even as between the English breed and our own, the impression on this side of the water is, that for some time past the tendency of English breeding is rather to encourage speed than bottom; that their horses are becoming leggy, and that the descendants of the English stock, in this country, have more endurance, more bottom for long heats, than their English ancestors. The question, whenever it is tested, will be decided perhaps by a few seconds. This style of horse, although the use to which he is generally applied, is out of the way of the farmer, is yet very interesting to us: for his good qualities all come down through the inferior races; and the Godolphin Arabian, to which the English Horse owes much of his superiority, was actually a cart-horse in Paris.

Our ordinary race of farm horses is extremely good. The warmth and variableness of the climate have settled down the stiff and heavy frame of the European Horse, and given us a race of quick, alert animals, admirably fitted to second the activity of the farmer himself.

So with respect to cattle, we have almost every variety, and the best of all the varieties. The emigrants often bring their best and favourite animal, the passenger vessels bring cows to give milk during their voyages, and be then profitably sold here; and these are generally of the highest kind; commerce imports, from every quarter, the animals which will pay best, and are therefore the best at home; and spirited breeders have gone into the English markets and brought over some of the highest priced animals. The result is, that we have a great accumulation of stock of every description. There are the Alderneys, with their rich milk, itself a cream. The Ayrshires, copious givers of milk strongly inclined to butter, with forms fitted for the butcher. The Devons, an ancient race brought by the first settlers of New England, and indicating their descent by their strong resemblance to the improved Devons, with which our stock has been of late years abundantly recruited. Fitted, by their milkiness, for the dairy, by their delicate flesh for the knife, by their quickness for the plough, they claim to be second to no other race; and if second to any, only to the Short-horned Durham, which is so familiar to us all as to require no description, which undoubtedly now unites the greatest mass of suffrages in its favour, as combining the qualities of abundant milk, of easy fattening, of early maturity, and of excellent food, more than any other race of horned cattle.

Of Sheep, too, we have all the varieties.

The Leicester, with their early fitness for the knife, and their large carcases and large wool—the Merino, for its smaller yield of rich wool—the Southdown, excellent for both wool and carcase—and, finally, we have a less known breed coming into reputation; it is the Tunisian, or broad-tailed sheep—originally sought mainly for the carcase, but, having proved itself very hardy, well acclimated when crossed by other breeds, so as to acquire a finer wool, it may become a standard stock among us. Nor are we less favoured in

Swine.

We have all the breeds; among others, peculiarly our own, is what is called the Chester County breed, and the Berkshire breed, just coming into great and deserved estimation among us. Even the common breeds, that run about without our knowing their extraction, are often admirable. I remember well that that Pennsylvania Quaker farmer, Jacob Brown, commander-in-chief of the American army during the last war, told me how much he was struck by the beauty of the hogs which he saw running about Philadelphia; and I have since often had occasion to admire them.

Of all these various animals we have specimens now before us which we may all examine, and if we desire it obtain them at reasonable rates; and no one can doubt the real economy to a farmer of possessing these improved breeds. An inferior animal takes as much trouble and as much food as a good one, and then the care and the expense are often thrown away upon cattle that will give neither milk nor beef. How many stunted milch cows do we see who may be said to go dry all the year round—how many steers who, after emptying a whole corn-crib, at last in the spring look like the crib itself, all ribs without, and all hollow inside! But crossing and training have created animals who turn at once into milk or beef everything we put into them—who give plenty of milk, if you want milk, plenty of fat, if you desire beef, and who, coming earlier into the dairy or the market, save a whole year's expense of feeding. I hope, therefore, that we may profit by the present opportunity of improving our stock, and encourage the spirited breeders who place the means of doing it in our power.

Nor are the *productions* of Pennsylvania less numerous than its animals. The great staples are wheat, rye, barley, oats, buckwheat, and, above all, Indian corn; a plant not estimated in Europe, but one of the most valuable presents which the new world has made to the old—worth almost all others in the extent of its yield and the variety of its uses: with a stalk ten or fifteen feet high, every inch of which is useful in the barn or the barn-yard, and a grain which to men supplies a variety of healthful and delicious dishes, and to cattle, is the quickest fattener, while it gives the last exquisite flavour to their flesh.

Having thus spoken of the advantages which we Pennsylvania farmers enjoy—I proceed to the less agreeable but more profitable inquiry, why our farms are not so productive as they ought to be—and I make the comparison between Pennsylvania and England, because I think England, on the whole, the best farming country in Europe—and our English friends must understand, that while we amuse ourselves occasionally with some of their peculiarities, we pay them the highest compliment we can, by proposing them as the constant models of our farming. Now why is it, that with all the natural advantages in our favour, the English farmers beat us? I will tell you what I think of it.

In the first place, we do not do justice to our own profession. Farming is not liked, either among the young people, because it is considered a lonely exile from gaiety—or among the calculating, because it is thought unproductive. This last is, I think, a total misapprehension; and, as I regard its correction essential to our success, I venture to say that farming ought to be more profitable in Pennsylvania than in England. The common notion is that the high price of labour in Pennsylvania makes farming unproductive, and the opinion is repeated without examination, till at last it is generally believed. Now the productiveness of farming, like the productiveness of every other occupation, depends on the expense of raising an article and the price you get for it when it is raised. These expenses are the *rent of the land*, the *taxes*, the *manure*, the prices of *labouring cattle*, of labouring *implements*, and of *labouring men*.

The land which can be rented in America for two or three dollars, could not be rented in England under ten or twelve dollars an acre—so that already the land itself costs three or four times as much. When you have got possession of the land, the tax-gatherer and the tithe-man soon make their appearance, and take from the farmer fifty-three per cent. on his rent. Here there are no tithes, and the tax, out of the immediate vicinity of the city improvements, would scarcely be one-tenth of the English tax—so that while on an English farm of two hundred acres the rent and charges would

be about.....	$3,000
The same rent and charges would here be.....	700
Making at once a difference of	$2,300

Next, all *manures* are cheaper in Pennsylvania—cheaper in themselves, and rendered more cheap by the facilities of transportation.

Labouring horses are about one-fourth cheaper in Pennsylvania; and, moreover, the work which two horses do in England is generally done here by one. Cows, too, are much cheaper here.

Labouring implements are cheaper and better, the wood being so much lower-priced and durable. Of all these elements of work, there remains only *labouring men* who are cheaper in England; they are cheaper by about 30 or 35 per cent.; but even say that wages are 50 per cent. higher in Pennsylvania than in England. But then, although the nominal rate of wages is higher, yet you actually get more work done for the money. The climate gives you more long working days than can be relied upon in the climate of England, where out-door work is necessarily much suspended, and the American labourer works better, for the very reason that he is paid better. And the proof, which seems decisive, is that although money wages are higher here, piece-work, contract-work—whether to dig a canal or to reap a field, is done cheaper in America. And, accordingly, one of our most intelligent Philadelphia county farmers, Mr. Walker, an Englishman, always declared that his farm-work was done twenty per cent. cheaper in Pennsylvania than in England. But supposing it to be higher—labour is only one of the elements—for we have seen that the rents are three or four times as high—taxes ten times as high—manures, implements, cattle, all dearer—and far overbalancing any difference of wages, were it even real.

Let us now see what are the prices obtained for what is raised. Wheat is higher in England—flesh markets are higher. But wheat forms only one-fourth of the crop—and, on the other hand, the great staple, wool, is dearer here—potatoes are twice or thrice as high here—and, therefore, the English compete with us in our own market—turnips, cabbages, all vegetables generally dearer; so that, after all, taking the average, farm produce is not higher, or very little higher, in England, while all the materials of raising it are much higher there—so that, on the whole, farming ought to be as lucrative in Pennsylvania as in England.

With regard to wages, it may sound strangely, yet I believe it to be true, that the real interest of all farmers is, that wages should be high, and for this reason. A labouring man is not a mere machine—a human poor-box, into whose mouth is put a daily number of cents never to reappear, but a living being with wants and desires, which he will not fail to gratify the moment he possesses the means. If he can earn only a scanty pittance, just enough to keep him alive, he starves on accordingly—his food bread and water, a half-fed, half-clad, wholly untaught animal, with a useless mouthful of carnivorous teeth. But if his wages increase, he instantly employs them in comforts; in clothes for himself and family; and, as he rises in the scale, ventures on the taste of meat. He employs a tailor—a shoemaker—a hatter—a butcher—and these, in turn, purchase the materials of their trade from the farmer himself. The labourer becomes thus a customer of himself, and the payer of other customers—and the farmer receives back, with abundant interest, the difference which he advances in the first instance between high wages and low wages. It is for this reason that one of our shrewdest farmers used to say, yes, give our labourers good wages and they will buy our beef. Thus, too, the bounties of Providence go round, a beneficent circle—and, after making the labourer better fed, better clad, better taught—in short, a better man, the farmer himself is richer for the very benefits he dispenses. Depend upon it, there is no surer sign of national prosperity than high wages—and God grant that for many a long year it may be the lot of our countrymen, who subsist by the labour of their hands, to work well—to be paid well—and to live well.

And now we come to the real reason why our crops do not equal those of England. It is, that our farms are all too large—too large for the means we employ in farming them. Agriculture is the only pursuit I know, where the owner does not employ his capital in his business. He rents or buys a large farm, and then has nothing left to stock it with. He might as well rent a large store without goods enough to fill a single corner of it. In England, it is supposed necessary, before renting land, that the tenant should have a working capital, of thirty or forty dollars an acre, to employ. It is calculated that, besides lime and other enriching substances, the cost of the mere animal manures applied to the soil of England, amounts to three hundred millions of dollars; being more than the value of the whole of its foreign commerce. Yet the grateful soil yields back with interest all that is thus lavished upon it. And so it would do here, if we would only trust the earth with any portion of our capital. But this we rarely do. A farmer who has made any money spends it not in his business, but in some other occupation. He buys more land when he ought to buy more manure; or he puts out his money in some joint stock company, to convert sunshine into moonshine—or he buys shares in some gold mine or lead mine. Rely upon it, our richest mine is the barn-yard, and that whatever temptations stocks or shares may offer, the best investment for a farmer is *live stock* and *plough-shares*.

Another defect of our farming is that we do not raise sheep enough. Some years since, we were among the first to import the merinos, and to indulge in the wildness of that extravagance, until we had secured vast numbers of these high-priced animals, without any previous accumulation of roots to sustain them, and then found that we should have to purchase expensive food for them. That at once disenchanted us. It was then seen that not only in palaces but in sheep-folds "a favourite has no friends." To enthusiasm succeeded disappointment and disgust, and these unhappy victims were sacrificed to the knife for no other crime than their appetite. We have not yet outgrown this horror—but it was entirely our own fault. There are many parts of the State where sheep would take care of themselves, in the woods, during the greater part of the year—and the root-crops would furnish a cheap and wholesome support during the remainder.

And this leads to the great improvement, which, of all others, we most need, which is the multiplication of root-crops.

No soil can withstand a succession of grain crops; and instead of letting it lie fallow in order to recruit from its exhaustion, as was the old plan, the better practice now is to plant in the same field a crop of roots. These draw their nourishment from a lower region than the grain crops do; they derive a great part of their food from the atmosphere, by their large leaves, which at the same time shelter the soil from the extreme heats; they provide a fresh and juicy food for cattle during the winter, thus enabling us to keep a large stock, which, in addition to the profit on them, furnish abundant manure with which to return to the grain crops. Now this should be our effort—more roots—more cattle—more manure—then more grain. We cannot much err in the choice of these roots. Common turnips, Swedish turnips, mangel wurzel, are all good, though in various degrees; but perhaps the sugar-beet will be found the best of all—not for the purpose, at least at present, of making sugar—but as the most nutritious food for cattle, and the most milk-producing vegetable for cows in winter. These root crops will grow abundantly; and what I should specially desire to see, is that we would confide in our long and mild autumns, and see if they would not yield us a crop of roots planted immediately as the grain harvests were removed, so as to be ready by winter for the cattle.

Another thing which we should strive to amend is the unfarmerlike and slovenly appearance of our fields. Clean cultivation is like personal neatness to an individual, a great attraction to a farm; but who can see without mortification, our fields of Indian corn or potatoes, just as they are verging to maturity, outtopped and stifled by a rival crop of weeds, which seem waiting with impatience for the removal of the real crops, when they and all their seed may take exclusive possession of the ground! The rule of farming should be, never to let any thing grow in our fields which we did not put there; and the value as well as the beauty of the crop would more than pay the expense of removing these noxious intruders.

Nor do we pay sufficient attention to our gardens. We are too often content with a small enclosure where a few peas and beans and a little salad are left to struggle with a gigantic family of weeds, not to speak of the frequent inroads from the pigs; and what can be saved comes at last on our tables the scanty companions of the masses of animal food which form almost our exclusive subsistence. For such a wilderness, how easy would it be to substitute the cheap and wholesome luxury of many vegetables which would grow without the least trouble, and, while they gave variety to our tables, would diminish our excessive and expensive use of animal food!

The same want of neatness pervades the exterior of our dwellings. We look in vain for the trim grass-plot, the nice border, the roses, the climbing vines, and all the luxuriance of our native wild flowers. These cheap and easy works—which seem trifles—make up the great mass of our enjoyments: they are the innocent occupations of the young members of the family—the elegant luxury of them all; and they impress even a passing stranger with a sense of the taste and ease of the farmer.

In fruits, too, we are deficient. Our climate invites us to plant; and there is scarcely a single fruit which will not grow in the open air, and all of them prosper with a little shelter. Undoubtedly there are insects which infest them; but these, care will exterminate. Undoubtedly some species are short-lived; but it is easy to provide a succession—and even many productions which we used to think uncongenial to our climate, will succeed if we will only try them. For instance, I am satisfied, from my own experience, that every farmer may have his patch of grapes quite as readily as he can his patch of beans or peas. He has only to plant his cuttings, as he would Indian corn, at sufficient distances to work them with the hoe-harrow. They will live through the winter without any covering and with less labour than Indian corn, because the corn requires replanting every year, while the vines will last for a century. He will thus provide a healthful pleasant fruit for his family use, or a profitable article for the market.

I was about to name one more improvement, but I hesitate about it—I mean the substitution of oxen for horses on farms. All the theory is in favour of the ox. He costs little, works hard, he eats little, and when we have done with him he is worth more than when we began—whereas a horse costs much, eats much, and when he dies is worth comparatively nothing. Yet, after all, it will be difficult to bring the ox into fashion. He has a failing which, in this country, is more fatal than madness to a dog—he cannot "go ahead"—and it seems a severe trial for our impatient American nature to creep behind an ox-plough, or to doze in an ox-cart. And then there is a better reason, in small farms, where both oxen and horses cannot be kept, for the preference of the horse. The ox can do only farm-work, and is utterly useless for the road. He is of no benefit to the farmer's family. We can neither make a visit with him, nor go to church with him, nor go to court with him—and if the present immense political assemblies are to continue in fashion, they would be like the buffalo meetings in the prairies, and it would be more difficult than it now is in political conventions to find out whose ox gored his neighbour's.

There was one caution which I would have ventured to offer some years ago—against the indulgence of expensive habits of living, and an undue preference of things foreign, over the fruits of our own industry—but which, I rejoice to think, is no longer necessary. Long may it continue so. Simplicity and frugality are the basis of all independence in farmers. If our mode of living be plain, it belongs to our condition—if our manners seem cold or even rough, they are at least natural—and their simple sincerity will gain nothing by being polished into duplicity. Though Italian mantel-pieces and folding-doors are indispensable to happiness in cities, they are not necessary to the welcome of country hospitality. If a finer gloss be given to foreign fabrics, let us be content with the simpler dresses which come from our own soil and our own industry; they may not fit us quite as well, but rely on it, they become us far better; and if we must needs drink, let us prefer the unadulterated juice of our own orchards to all exotic fermentations—even to that bad translation into French of our own cider called champagne.

I have spoken of farms and of farming. let me add a few words about the farmer. The time was, when it was the fashion to speak of the Pennsylvania farmer as a dull, plodding person, whose proper representative was the Conestoga horse by his side; indifferent to the education of his children, anxious only about his large barn, and when the least cultivated part of the farm was the parlour. These caricatures, always exaggerated, have passed away, and the Pennsylvania farmer takes his rank among the most intelligent of his countrymen, with no indisposition for improvements beyond the natural caution with which all new things should be considered before they are adopted. But an unwillingness to try what is new, forms no part of the American character. How can it be, since our whole government is a novelty—our whole system of laws is undergoing constant changes—and we are daily encountering, in all the walks of life, things which startle the more settled habits of the old world. When such novelties are first presented, the European looks back to know what the past would think of it—the American looks forward to find how it will affect the future—the European thinks of his grandfathers—the American of his grandchildren. There was once a prejudice against all these things—against what was called theory and book-farming—but that absurdity has passed away. In all other occupations, men desire to know how others are getting on in the same pursuits elsewhere; they inform themselves of what is passing in the world, and are on the alert to discover and adopt improvements. The farmers have few of these advantages—they do not meet daily at exchanges to concentrate all the news of commerce—they have no factories, where all that is doing among their competitors abroad is discussed—no agents to report the slightest movements which may affect their interests. They live apart—they rarely come together, and have no concert of action. Now, this defect can be best supplied by reading works devoted to their interests, because these may fill up the leisure hours which might otherwise be wasted in idleness or misemployed in dissipation—and as some sort of newspaper is almost a necessary of life, let us select one which, discarding the eternal violence of party politics, shall give us all that is useful or new in our profession. This Society has endeavoured to promote such a one in the Farmers' Cabinet, a monthly paper, exclusively occupied with the pursuits of agriculture—where we may learn what is doing in our line, over all the world, at so cheap a rate, that for a dozen stalks of corn, or a bushel of wheat or potatoes, we may have a constant source of pleasing and useful information. I think, however, that we must prepare ourselves for some startling novelties in farming. We were taught in our youth to consider fire and water as the deadliest foes. They are at last reconciled, and their union has produced the master-power of the world. Steam has altered the whole routine of human labour—it has given to England alone, the equivalent in labour of four hundred millions of men. As yet, commerce and manufactures alone have felt its influence, but it cannot be that this gigantic power will long be content to remain shut up in factories and ships. Rely upon it, steam will before long run off the track into the fields, for, of all human employments, farm-work is at this moment the most dependent on mere manual labour. Be not, therefore, surprised if we yet live to see some steam plough making its hundred furrows in our fields—or some huge engine, like the extinct mammoth, roving through the western forests, and mowing down the woods, like a cradler in the harvest-field. Wild as this seems, there is nothing in it stranger than what we have all witnessed already. When Fulton and Oliver Evans first talked to us about the steam-boat and the rail-road, we thought them insane, and already we enjoy more than they ever anticipated in their most sanguine moments. One of these applications of steam—the raising of water for agriculture—I have already attempted, in my own small way. You know that the greatest enemy of our farming is the drought of midsummer, when all vegetation withers, and the decaying crops reproach us with suffering the magnificent rivers by their side to pass away. In the southern climates of the old world, men collect with great toil the smallest rills, and make them wind over their fields—the hand-bucket of Egypt, the water-wheel of Persia, all the toilsome contrivance of manual labour, are put in requisition to carry freshness and fertility over fields not wanting them more than our own. With far greater advantages, absolutely nothing has yet been done in that branch of cultivation; may we not hope that these feeble means of irrigation may be superseded by steam, when a few bushels of coal may disperse over our fields, from our exhaustless rivers, abundant supplies of water.

All these improvements which may adorn or benefit our farms, are recommended to us not only by our own individual interests, but by the higher sentiment of our duty to the country. This is essentially a nation of farmers. No where else is so large a portion of the community engaged in farming; no where else are the cultivators of the earth more independent or so powerful. One would think that in Europe the great business of life was to put each other to death; for so large a proportion of men are drawn from the walks of pro-

ductive industry and trained to no other occupation except to shoot foreigners *always*, and their own countrymen *occasionally*; while here, the whole energy of all the nation is directed with intense force upon peaceful labour. A strange spectacle this, of one, and one only, unarmed nation on the face of the earth! There is abroad a wild struggle between existing authorities and popular pretensions, and our own example is the common theme of applause or denunciation. It is the more important then for the farmers of this country to be true to their own principles. The soil is theirs—the government is theirs—and on them depends mainly the continuance of their system. That system is, that enlightened opinion, and the domestic ties are more stable guarantees of social tranquillity than mere force, and that the government of the plough is safer, and, when there is need, stronger than the government of the sword. If the existing dissensions of the old world are to be settled by two millions of soldiers, all ours will soon be decided by two millions of voters. The instinct of agriculture is for peace — for the empire of reason, not of violence — of votes, not of bayonets. Nor shall we, as freemen and members of a domestic and fireside profession, hesitate in our choice of the three great master influences which now rule the world —force, opinion, and affection — the *cartridge-box*, the *ballot-box*, and the *band-box*.

For the Farmers' Cabinet.

Hoven Cattle.

Mr. Editor,—In a late conversation with Capt James Cooper, of Haddonfield, he informed me of a certain cure for hoven cattle, which ought, I think, to be made universally known, for the good of the community. It is this—

Make a twisted band of straw, the size of the wrist, and place it in the mouth of the animal, drawing it tight, and making fast the ends over the head, just behind the horns: this will cause the beast to endeavour to rid itself of the inconvenience, by chewing the band, and the act of moving the tongue and jaws will open the gullet, and permit the pent-up air to escape. The efficiency of the mode here recommended, was tested a very short time ago, on a valuable cow belonging to the Captain, by one of his neighbours, who, finding her most dangerously affected in this way, instantly applied the twisted band of straw, and was quite astonished to find that, in a moment, the air rushed furiously out of the distended stomach, and in a few minutes more she was perfectly recovered.

Now, I consider your readers indebted to the Captain for this communication, to an amount far more than the value of a year's subscription to the Cabinet, but, in return, he only asks every one to do good, by communicating, by means of its pages, whatever they may know which would be at all likely to benefit the world by its publication. J. R.

New Jersey.

For the Farmers' Cabinet.

The Milk-Cow.

A DIALOGUE FOUNDED ON FACT.

N.—Capt. J., is it true that you have paid fifty dollars for a milk-cow?

Capt. J.—Yes indeed it is; and you would not get her, were you to offer me a hundred for her.

N.—Oh! it is a monstrous price, she can never pay it, never: I would not give more than thirty dollars for the best cow I ever saw.

Capt. J.—Come now, let us talk over the subject, and see if we can't discover that it is quite possible to make a cow pay for herself, even if she costs fifty dollars. Can you tell me what is the interest on fifty dollars for a year?

N.—Why, three dollars, isn't it?

Capt. J.—And how many weeks are there in a year?

N.—Fifty-two, to be sure.

Capt. J.—Well, then, before I purchased this cow my butter cost me a dollar and a half a week, besides what I had to pay for new milk for my family; now I save all this, sell a dollar's worth of butter a week, and have all the skim-milk for my hogs. Now, do you think I put the value of all this too high at three dollars a week?

N.—Well, perhaps not.

Capt. J.—Then, you see I pay the *interest* of the fifty dollars—the price of the cow—for the whole year, by one week's receipts. And am I right when I calculate I have the remaining fifty-one weeks' receipts, with which to pay the *principal* and her keep?

N.—I guess you are, and I am fifty dollars the wiser for our conversation upon the subject.

To Correspondents.

"Agricola"† is reminded of the utter impracticability of estimating the quantity of hay in the mow by measurement; so much depends on the nature of the hay, whether it be up-land or low-land, and how much it had heated in the mow, neither the seller nor the buyer would be satisfied with anything short of weighing, and that accurately.

"Tycho Brahe's communication is very acceptable; truth ought to bear the most rigid scrutiny; we only bargain for the *duty* of withholding any thing that is personal; it will appear in our next number.

Will our friend of the "old school" excuse the non-appearance of his article? to insure insertion, communications should be sent in before the first day of the month.

The quantity of rain which fell during the 9th month, (September,) was ..... 2.502 inches.

John Conrad.

Pennsylvania Hospital, 10th mo. 1, 1840.

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